

RADIO *AMATEUR*

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THE WIA RADIO AMATEUR'S JOURNAL

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Wireless Institute of Australia 1992

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Cover

Four-bay stack of loop Yagis in position on Mt Skene 1990/91 expedition. Shown L to R: Huntly VK3ZE, Bill VK3JT, Dick VK3ARR, Misky VK3WEG(2) and Bill VK3WEG(1). For full story see "The Loop Yagi Antenna" on page 9. Photo Bill Magnusson VK3JT.

EDITOR'S COMMENT

BILL RICE VK3ABP EXECUTIVE EDITOR

Murphy or Sod?

It has been said that Murphy's Law and electronics were made for each other. Also known as Sod's Law, it says "If anything can go wrong, it will!" Someone else said that Murphy was an optimist! Incidentally, if your name is Murphy (and I have known several delightful Murphys) please substitute the alternative name. I know no-one named Sod!

The law seems to apply well to electronics, but in the past week or two, I have been its victim with more mechanical items, too. I now risk the displeasure of the General Manager, who has some sort of phobia about any mention in AR of my sailing. Sorry, Bill, but all that I am going to describe happened *not during*, but before the annual Marley

Point Overnight Sailing Race. Not much about amateur radio, but perhaps interesting?

A week before the race, the first item of trailer-sailer preparation was the outboard motor. For safety, boats are not allowed to start without a motor. If used, the boat is disqualified! In our little 4hp job the water pump was not working. The last new impeller was several years ago. Probably disintegrated. Take it apart. Sure enough: shreds of synthetic rubber. Buy and fit a new one. Not simple; needs tools and techniques that one seems to forget! Eventually installed, but it doesn't work! Many hours later, all sorts of tests and checks, it slowly "comes good". Maybe bits of the old impeller had blocked a pipe?

Almost ready, trailer coupled up and out in the street. Last minute items fixed. Car now hard to start, blows black smoke and won't idle. Flooded carburettor? Automatic choke not working? No idea! It too "came good" by itself! Worrying, but no further problem until we arrived at Marley Point (near Sale) with about one hour to sunset and 26 hours to race start time. Start rigging boat. Why is the headsail furler badly bent? Did we drive under a low tree? Temporary repairs.

After raising the mast, transfer radio from car to boat to contact Ron VK3OM (at Paynesville, where the race will finish, 50km farther east) on 2m FM. No go! Antenna cable shorted! Fortunately only a few wisps of wire where they shouldn't be at the back of a BNC connector. Fix that; communication restored. XYL and I have comfortable night aboard boat, still on trailer in car park.

Next morning, second crew member arrives from Melbourne; we finish rigging. Move off to the launch ramp. "Hey, you've got a loose trailer wheel!" A hub bearing has fallen to bits! Both wheels were okay when we left home. So, before XYL can drive trailer on to Paynesville, the hub must be fixed. Not a rare boat-trailer problem, so we have spares.

From here on Murphy seemed to forget us. Except for just one thing. If there's anything our boat handles worse than light airs, it's a strong head-wind. Guess what? Light airs for the first 15 hours, then strong head-wind. Slowest race ever. We had no hope of finishing before the time limit, so retired. The outboard ran for three hours to bring us in.

It had been a very trying weekend.

AR

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society — Founded 1910

Representing the Australian Amateur Radio Service — Member of the International Amateur Radio Union

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WIA NEWS

FROM THE WIA EXECUTIVE OFFICE

WARC 92 Over

The World Administrative Radio Conference 1992, or WARC 92 for short, is now over. 1109 delegates, representing 119 countries and other organisations, met in Torremolinos, Spain for several weeks to hammer out agreements affecting the use of the radio spectrum.

The Australian amateur radio service was ably represented by the two WIA delegates, David Wardlaw VK3ADW and Ron Henderson VK1RH, who were an important part of the 22 member official Australian

government delegation. The presence of the two WIA delegates was financed by the International Representation component of WIA membership subscriptions.

Many national delegations contained radio amateurs. Indeed the expression "amateur radio mafia" was often heard in jest! Over 100 identified themselves to the International Amateur Radio Union (IARU) team, and 245 delegates attended the IARU reception on the evening of 13th February.

Naturally, the world amateur radio service was also represented by the IARU that,

as a recognised international organisation, was invited to participate in the WARC by the International Telecommunications Union, the WARC 92 convening body.

The IARU team had representatives from all three regions, Europe/Africa, the Americas and the Oceania/South East Asia area. Having observer status with no ties to any national delegation the IARU team was able to move about delegations spreading the amateur theme of 300 kHz world wide at 7 MHz.

The WARC spent much of the first week setting up committees, presenting national proposals and identifying issues of conflict for debate. By the second week most working groups had been set up and team members were

busy listening to other nation's views and presenting ours.

While there were six committees in all, the two of most importance covered the greatest number of conflicting proposals, Frequency Allocations and Regulations. The two WIA representatives concentrated on these, David on frequency matters and Ron on regulations. Each committee in turn had several working groups concentrating on different aspects.

As was expected, it soon became obvious that the main frequency allocation issues of concern to the amateur service were the high frequency broadcasting pressures on the 7 MHz band and concerns about operating frequencies for wind profiling radars.

WIA DIVISIONS

The WIA consists of seven autonomous State Divisions. Each member of the WIA is a member of a Division, usually their residential State or Territory, and each Division looks after amateur radio affairs within their State.

Division	Address	Officers	Weekly News Broadcasts	1992 Fees
VK1	ACT Division GPO Box 900 Canberra ACT 2601 Phone (06) 247 7008	President Secretary Treasurer Christopher Davis VK1DO Jan Durrell VK1BR Ken Ray VK1KEN	3.570MHz 2m ch 6950 Rebroadcast Mondays 8pm 70cm ch 8625 2000 hrs Sun	(F) \$70.00 (G) (S) \$58.00 (X) \$42.00
VK2	NSW Division 109 Wigram St Parramatta NSW (PO B ox 1066) Parramatta 2124 Phone (02) 889 2417 Fax (02) 633 1525	President Secretary Treasurer (Office hours) Roger Henley VK2GZJ Bob Lloyd-Jones VK2YEL Bob Taylor VK2AOE Mon-Fri 1100-1400 Wed 1900-2100	From VK2MI at 1045 and 1915 on Sunday on the following frequencies and modes: (F1045 only); 1.845 AM; 3.595 AM morning and SSB evening; 7.146 AM; 10.125 SSB; On relay 14.160 SSB and 21.170 SSB; 28.320 SSB; 52.120 SSB; 52.525 FM; 144.120 SSB; 147.000 FM; 438.525 FM; On relay 584.750 ATV sound; 1281.750 FM. Plus automatic relays to 2m repeaters surrounding Sydney and manuals to several county repeaters. News headlines by phone (02) 552 5188	(F) \$66.75 (G) (S) \$53.40 (X) \$38.75
VK3	Victorian Division 409 Victory Boulevard Ashburton Vic 3147 Phone (03) 885 9261	President Secretary Treasurer Office hours 0630-1530 Tue & Thur Jim Linton VK3PC Barry Wilton VK3DV Ron Halsey VK3DLZ	1.840MHz AM; 3.615 SSB, 7.065 SSB, 147.250 FM(R) Mt Macedon, 147.225 FM(R) Mt Baw Baw 148.800 FM(R) Midland 146.700 FM(R) Mt. Dandenong 438.075 FM(R) Mt St Leonard 1030 hrs on Sunday	(F) \$72.00 (G) (S) \$58.00 (X) \$44.00
VK4	Queensland Division GPO Box 638 Brisbane Qld 4001 Phone (07) 284 9075	President Secretary Treasurer John Aarsse VK4QA Bob Lees VK4ER Eric Filcock VK4NEF	1.825, 3.605, 7.118, 10.135, 14.342, 18.132, 21.175, 24.970, 28.400, MHz 52.525 regional 2m repeaters and 1296, 100 0900 hrs Sunday Repeated on 3.605 & 147.150MHz, 1930 Monday	(F) \$70.00 (G) (S) \$58.00 (X) \$42.00
VK5	South Australian Division 34 West Thebarton Rd Thebarton SA 5031 (GPO Box 1234 Adelaide SA 5001) Phone (08) 352 3428	President Secretary Treasurer Rowland Bruce VK5OU John McKellar VK5BJM Bill Wardrop VK5AWM	1820kHz to 3.550MHz, 7.095, 14.175, 28.470, 53.100, 145.000, 147.000 FM(R) Adelaide, 146.700 FM(R) Mt Marion, 146.900 FM(R) South East, ATV Ch 34 579.000 Adelaide, ATV 444.250 Mid North Barossa Valley 146.825, 438.425 (NT) 3.555M 146.500, 0900 hrs Sunday	(F) \$70.00 (G) (S) \$58.00 (X) \$42.00
VK6	West Australian Division PO Box 10 West Perth WA 6005 Phone (09) 388 3888	President Secretary Treasurer Cliff Bastin VK6LZ John Farnan VK6AFA Bruce Hedland-Thomas VK6OO	146.700 FM(R) Perth, at 0930 hrs Sunday, relayed on 3.560, 7.075, 14.115, 14.175, 21.185, 28.345, 50.150, 438.525MHz. Country relays 3562, 147.350(F) Bussellton 146.900(F) Mt William (Bunbury) 147.225(F) 147.250(F) Mt Saddleback 146.725(F) Albany 146.825(F) Mt Barker Broadcast repeated on 146.700 at 1900 hrs	(F) \$60.75 (G) (S) \$48.80 (X) \$32.75
VK7	Tasmanian Division 148 Derwent Ave Lindisfarne Tas 7015	President Secretary Treasurer Tom Allen VK7AL Tad Beard VK7EB Peter King VK7ZPK	146.700MHz FM (VK7FHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.750 (VK7PINW), 3.570, 7.090, 14.130, 52.100, 144.100 (Hobart) Repeated Tues 3.590 at 1930 hrs	(F) \$67.00 (G) (S) \$55.85 (X) \$39.00
VK8	(Northern Territory) is part of the VK5 Division and relays broadcasts from VK5 as shown (received on 14 or 28MHz).			

Note: All times are local. All frequencies MHz.

Membership Grades

Full (F) Pension (S)
Needy (G) Student (X)
Non receipt of AR (Q)

Three-year membership available to (F) (G) (X) grades at fee x 3 times

Also, a new issue of potential concern arose concerning low earth orbit satellites and the frequencies next to the 144 MHz band.

Microwave allocations up to 3 GHz were considered in working group, but little attention was paid to the amateur allocation at 2300 to 2450 MHz.

The Russian Federation put up a proposal for a "secondary" allocation in the 74 to 84 GHz range for a "Space Research (space-to-earth) Service" that would straddle the amateur/amateur satellite allocations at 75.5 to 76 (exclusive PRIMARY) and 76 to 81 GHz (shared secondary). This was also considered in a working group.

By week three the WARC was down to serious negotiating with long sessions, some running to 11 pm and extra meetings all day Saturday. One Australian, who chaired a working group, lost his weekend when opposing parties to an important issue sought his presence on Sunday. The difficulty was that there is just not enough spectrum space for all the demands that were being made.

Most of the week 4 business was carried out in the plenary sessions, where all documents submitted are required to have two readings.

WARC 92 finally closed a little after midnight on Tuesday 4th March 1992. Its last business session met almost continuously from 9.30 am on Monday morning 2nd March until 7.30 am on the Tuesday morning. The difficult issues for resolution involved the 1.5 GHz band and consequential changes to the 2.5 GHz band.

The final band plan tables for these bands were not available in the Final Acts as distributed. However, it is believed a compromise had been reached with the major proponents each gaining something and also making significant sacrifices. Those interests were the Mobile Satellite Service, Broadcasting Satellite Service, and a future land mobile personal

communications service. Airborne personal communications, that is telephones in aircraft, were also involved.

In the minds of some delegates, the conclusion of the conference left something to be desired. It is uncertain whether those final band plans and their associated footnotes received the requisite consideration at two plenary readings before the closure of the proceedings. Much work has been placed upon the secretariat to reconstruct from their notes, agenda papers, official précis and tape recordings, the actual decisions made.

For us amateurs the WARC was, as expected and advised in WIA communications to members, essentially a defensive exercise. Early hopes for harmonising the 7 MHz amateur band world wide with a 300 kHz allocation were not achieved. However, taking note of the mood of the conference when an extension plan for HF broadcasting was hammered out as a compromise package, we did well to survive with no change to existing allocations. A positive step was made when WARC 92 made a formal recommendation to examine harmonisation of 7 MHz in the future.

The next band of interest is 50 MHz, where wind profiling radars were considered for an allocation. Incidentally, this applied also for the 400 MHz and 1 GHz profile radars. The WARC made a recommendation to request CCIR to study these radars.

Moving up in frequency we will, in due course, have new services either side of the 2 metre band. The bands 135 - 138 MHz and 148 - 149.9 MHz were allocated to low earth orbit satellite communications. Perhaps they will be better bed fellows than the 148 MHz pagels!

Near the 420-450 MHz amateur bands several changes are proposed such as space to space communications about 410 MHz for spacecraft to spacecraft and space station short range communications. It is also expected

that sharing around 420 - 440 MHz will increase.

Sharing changes are also occurring with the 2300 MHz and the 76 GHz bands.

In summary, amateurs world-wide must now look forward to their objectives for the future, develop plans, and act with one consolidated and united voice through the IARU. With limited agenda or specialised WARC to be held in the future every two years, the amateur service actions must be continuous with attention to amateurs interests.

That brief report on WARC 92 was compiled from continuous information received by fax from the two WIA representatives attending the WARC. When all the dust settles, and now that David Wardlaw and Ron Henderson have returned to Australia, a more detailed report will be published in Amateur Radio magazine.

Yet Another Amateur in Space

A note from the ARRL advises that another Space Shuttle astronaut, Mission Specialist Kathy Sullivan, has qualified for an amateur licence by passing the no-code Technician examination. She was scheduled to fly in March aboard STS-45, with three other licensed amateurs in its crew.

Morse Code

The ARRL newsletter also advised that the FCC, the USA equivalent of the DoTC, amended its rules on January 16th 1992 to implement the Global Maritime Distress and Safety System. This new system eliminates manual Morse code for international distress communications in favour of digital and satellite techniques.

This will obviously be another effective argument for those who want to see compulsory Morse Code qualifications removed from the amateur service HF licensing requirements. However, as previously advised, that move,

which can only be approved at a WARC, still seems to be some years away.

Have You Paid Your Licence Renewal?

Recent discussions with the DoTC revealed the fact that each month all expired and non-renewed licences are transferred to an "inactive, unpaid" category for a 12 months before being cancelled.

However, while in that category, they can be reissued if another amateur specifically requests the particular call-sign. Please be warned about this, especially holders of the prized "two letter" calls. It is very easy to forget when the renewal is due, but the effects may be almost immediate and unpleasant.

The WIA is negotiating further with DoTC in an attempt to change this practice, not only for the sake of the amateurs who may lose long-standing call signs, but to reduce the confusion that occurs if call signs change too abruptly.

The message is - keep your present address current with the DoTC, and pay your licence renewal as soon as you receive the account!

Reciprocal Licensing

At the IARU Region III Conference, held last October in Bandung, a member of the WIA delegation received a request about reciprocal licensing with Indonesia.

During WARC 92 a WIA member of the Australian Delegation had an opportunity to speak with an Indonesian Posts and Telecommunications official and to an ORARI member on the Indonesian delegation.

The situation with Indonesia is that short term visitors cannot obtain licences. However, persons satisfying the one year residency requirement are able to apply. Under these circumstances it seems worthwhile for the WIA to request DoTC to approach their Indonesian counterparts

seeking reciprocal licensing arrangements. The contacts made at WARC 92 should ease that approach.

At the same IARU Region III Conference several other national amateur radio societies made overtures concerning reciprocal licensing. The WIA has now written to the Radio Society of Sri Lanka, the Korean Amateur Radio League and the Philippines Amateur Radio Association confirming our wish to seek reciprocal licensing. When their written agreement is received formal approaches will be made to the DoTC. Again, contacts made at WARC 92 with senior officials in the administrations of Korea and Sri Lanka should help progress.

Computer Virus

The Executive Office of the WIA uses five computers in a LAN network. Much of the information provided to Divisions, received from DoTC, to and from the Amateur Radio printers, and to and from members, is transferred using floppy disks.

The WIA computers are regularly checked for computer virus infection, and every floppy disk received in the office is checked before use.

A member reported last week that a floppy disk, sent to him in October last year, was infected with the "Stoned" virus. He was quite certain that the virus could not have infected the disk, or his computer, from any other source than the floppy disk received from the Executive Office.

Full checks were carried out on each computer, and on each of several hundred floppy disks in the office. No virus, thank heavens! However, where did the virus come from. We don't know, but it sure points up how easy it can be for a virus to sneak into your computer system. I hope you always virus check any floppy disk before you use it.

Terry Clark VK2ALG

WIA ACCREDITED EXAMINERS

(Listed in Postcode order)

Below is a list of examiners accredited by WIA Exam Service to conduct radio examination using WIA ExamService examination materials.

The list is published in postcode order to assist candidates to determine the examiner closest to their location. This list was up-to-date as at 13 March 1992, but more applications to become an accredited examiner are still being received.

Accredited examiners will not only be able to provide advice and assistance in relation to examinations, but also about 'how to become a radio amateur', to all interested enquirers in their locality. The DoTC and WIA Exam Service direct all such enquiries to accredited examiners in the area in which the enquirer lives.

Jim Jones VK5JF	Darwin Amateur Radio Club Inc	GPO Box 3583, Darwin,	0810. Tel 089 46 4131 (BH)
Barrie Burns VK8DI	Darwin Amateur Radio Club Inc	1 Kerin Pl, Rapid Creek,	0801. Tel 089 85 1088 (AH)
Spud Murphy VK8ZWM	Darwin Amateur Radio Club Inc	139 Lee Pl Rd, Wagaman,	0810. Tel 089 46 5887 (BH)
Henry Newland VK8HW	Darwin Amateur Radio Club Inc	GPO Box 717, Darwin,	0810. Tel 089 81 8444 (BH)
Trevor Connell VK8CO	Darwin ARC Inc	P.O. Box 40441, Casuarina,	0811. Tel 089 27 8256 (AH)
Richard Hand VK8AZ	Gove Amateur Radio Group	P.O. Box 211, Nhulunbuy,	0881. Tel 089 87 3148 (AH)
Grant Hinchcliffe VK2GK	WARS Examinations	72 Vine St, Chippendale,	2006. Tel 02 319 1913 (AH)
Eric Van De Weyer VK2KUR	WARS Examinations	P.O. Box 131, Watsons Bay,	2030. Tel 02 318 6138 (BH)
Rick Cummins VK2QU	WARS Examinations	1493 Anzac Pde, Little Bay,	2038. Tel 02 861 3816 (AH)
George Voron VK2BGV	International ARC	2 Griffith Avenue, Roseville,	2069. Tel 02 417 1066
Sam Voron VK2BVS	International ARC	2 Griffith Avenue, Roseville,	2069. Tel 02 417 1068
Barry Gammage VK2GAM	WIA NSW Division	P.O. Box 1066, Parramatta,	2124. Tel 02 727 7338
Cec Purvis L20997	WIA NSW Division	P.O. Box 1066, Parramatta,	2124. Tel 02 649 9234
Terry Ryeland VK2LUX	WIA NSW Division	P.O. Box 1066, Parramatta,	2124. Tel 02 669 2417 (BH)
Bob Girdle VK2GK	West Ham Examinations	13 Iris St, Sefton,	2162. Tel 02 844 9193 (AH)
Wayne Brack VK2WDL	Bankstown Amateur Radio Club	54 Hillard St, Wiley Park,	2195. Tel 02 743 8417 (BH)
Paul Phelan VK2GJ	St George ARS Inc	P.O. Box 530, Englewood,	2233. Tel 02 521 3053 (AH)
Paul Smith VK2ZSA	St George ARS Inc	P.O. Box 530, Englewood,	2233. Tel 02 520 7323 (AH)
Ean Young VK2FSO	St George ARS Inc	P.O. Box 530, Englewood,	2233. Tel 02 580 5329 (AH)
Leon Brett VK2BLV	Central Coast ARC Inc	87 Albany St, East Gosford,	2257. Tel 043 24 1649
Bill Scovell VK2FKK	Central Coast ARC Inc	13 Talani Ave, Daleys Point,	2257. Tel 043 43 2339
Jim Wing VK2MSB		10 Victory Street, Coranborong,	2285. Tel 049 77 1507 (AH)
Peter Browne VK2GFE		P.O. Box 77, Warners Bay,	2282. Tel 049 58 2832 (AH)
Maurice Jones VK2CD		P.O. Box 77, Warners Bay,	2282. Tel 049 49 8786
Fred Lawler VK2SI	Westlakes Amateur Radio Club	P.O. Box 77, Warners Bay,	2282. Tel 049 64 8106 (BH)
Greg Smith VK2GJS	Westlakes Amateur Radio Club	P.O. Box 77, Warners Bay,	2282. Tel 049 41 3488 (BH)
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John Plevin VK5AEP		18 Wandana Ave, Port Lincoln,	5608.	Tel 086 82 3161
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Stuart Crowther VK5BWC		68 Acacia Ave, Whyalla Stuart,	5608.	Tel 086 45 4331 (AH)
Joe Neal VK5PWC		209 Jenkins Ave, Whyalla Stuart,	5608.	Tel 086 49 3711 (AH)
Alan Gilchrist VK5BVG		6 Kinnear Street, Port Augusta,	5700.	Tel 086 43 6455 (AH)
Peter Morgan VK5BWH		6 Kinnear Street, Port Augusta,	5700.	Tel 086 42 2383 (AH)
Bill Oller VK5BWD		6 Kinnear St, Port Augusta,	5700.	Tel 086 42 2855 (AH)
Phil Jamieson VK5ZPP		11 Bromley Place, Kingsley,	6026.	Tel 09 409 1156 (AH)
Byron Erskine VK5BKS		80 Balga Ave, Balga,	6061.	Tel 09 349 9489
Diane Cousins VK5BC		PO Box 97, Mirrabooka,	6061.	Tel 09 344 5241 (AH)
Glenn Cousins VK5ALZ		2 Mottlingham St, East Victoria Park,	6101.	Tel 09 381 3985
Frank Langford VK5BLA		2 Mottlingham St, East Victoria Park,	6101.	Tel 09 381 3985
Rev Suter VK5SA		10 Clipper Way, Halls Head,	6210.	Tel 09 581 5028
Con Murphy VK5PM		PO Box 261, Mandurah,	6210.	Tel
Allen Byrne VK5BT		PO Box 88, Yarrup,	6218.	Tel 097 33 1978
Bill Harrison VK5WJH		2 Stewes St, Bunbury,	6230.	Tel 097 91 1301 (AH)
Barry Mitchell VK5KH		PO Box 31, Bunbury,	6230.	Tel 097 34 4374 (AH)
John Thornborough VK5ALJ		9 Henley Ave, Bunbury,	6230.	Tel 097 91 1599 (AH)
Aubrey Kelghley VK5XY		PO Box 31, Bunbury,	6230.	Tel 097 97 1126
Tom Reed VK5TR		242 Serpentine Rd, Albany,	6330.	Tel 098 41 3104
Steve Hill VK5PA		Lot 25 Shellbay Rd, Lower King,	6330.	Tel 098 447395
Dave Holt VK5YA		PO Box 410, Wickham,	6720.	Tel 091 85 4510 (AH)
Peter Dowd VK5PR		PO Box 410, Wickham,	6720.	Tel 091 87 1928
Reg Emmett VK5K		12 Susan Pde, Lenah Valley,	7018.	Tel
Graeme Reardon VK5ZGG		PO Box 26, Robe,	7019.	Tel 092 48 8804 (AH)
Mike Collinson VK5MA		2 Trent St, Youngtown,	7249.	Tel 093 44 8856 (AH)
Ron Churcher VK5RN		PO Box 986, Launceston,	7250.	Tel 093 29 0751 (BH)
Tony Clayton VK5AH		PO Box 277, Devonport,	7310.	Tel 044 24 6368 (AH)
Clairie Hilder VK5HC		10 Wrenwood Ave, Quilala,	7310.	Tel 044 24 5375 (AH)
Shane Lynd VK5KHZ		5 Speed St, Coes,	7320.	Tel 041 51 8211
Steve Bush VK5EQ		14 Read St, Tullah,	7321.	Tel 044 73 4256 (AH)
Dick Van Baek VK5KVB		PO Box 123, Somerset,	7322.	Tel 044 35 1043
		31 Beech Ave, Rosebery,	7470.	Tel 044 73 1893 (AH)

TRY THIS

Build Yourself an An-Egg-oic Chamber

Does your shack have bare walls and poor acoustics? Do other radio amateurs tell you to switch off your speech processor when you know you're not using one? Do you use CW only, so you don't have to hear complaints about your audio quality?

The usual remedy is to put curtains on the walls to absorb those unwanted echoes, but they're expensive. There is a cheap, easy and environmentally friendly way around the problem: egg cartons!

While visiting my local club (Manly-Warringah Radio Society), I paid a visit to the brick-walled offices of the Royal Volunteer Coastal Patrol in the same building.

All along the walls were colourful, recycled cardboard egg cartons. Sure enough the acoustics there are much better than in the radio clubrooms. They act as wonderful acoustic (or should that be egg-suffic!) baffles.

I just wonder how many RVCP members suffer from high cholesterol ... (or more likely, lowered cholesterol! - Ed).

Richard Murnane VK2SKY
7/15 Grafton Cres, Dee Why 2099

ar

Help stamp out stolen equipment

keep a record of all your equipment serial numbers in a safe place.

The Loop Yagi Antenna

BILL MAGNUSSON VK3JT, 359 WILLIAMSTOWN RD, YARRAVILLE 3013

THIS ANTENNA FIRST received widespread attention in the 1970s when it was detailed in the RSGB's *VHF/UHF Manual*. It's a development from the well-known cubical quad and sometimes called the quad-Yagi. It's not to be confused with the Quagi antenna, which is nothing more than a Yagi with a quad-driven element. Some featured a quad reflector as well. The Quagi never really took off, as its results didn't justify the extra trouble in construction and adjustment.

The loop Yagi, however, proved to be a top performer, and achieved great popularity, particularly among the Melbourne ATV fraternity which found it to be much more effective than the long Yagis and 88-element J-beams of the day. The loop Yagi's advantages are high gain, wide bandwidth, sharp front lobe, minimum side and back lobes, ease of construction and matching and repeatability of performance. Unlike a lot of antennas, its radiation pattern seems to be much the same in both the horizontal and vertical planes.

It proved a worthy competitor for the multi-element phased array, popular at the time which, although marginally better in performance, is much more difficult to construct and maintain. The multi-element phased array will be the subject of a later article. It's definitely worthwhile considering as a UHF DX antenna.

The loop Yagi became the "industry standard" for the ATV group and other amateurs heavily involved in UHF DX.

Many avid UHF DXers still rely on the proven performance of these remarkable antennas. Being constructed in closed loops and entirely at DC earth potential, they are inherently very quiet listening antennas. They are robust and virtually impervious to the elements. There are many loop Yagi antennas still working perfectly today after 10 or more years of trouble-free service.

A new generation of amateurs has hit the scene since those days, and many will be experimenting on VHF and UHF. The purpose of the article is to rekindle interest in this type of antenna.

Loop Yagis can be made as long as construction techniques allow. Dick VK3ARR and I have built 426MHz loop Yagis as long as 10 metres, with 35 or more elements, for use on our ATV moun-

taintop expeditions. As with all Yagis, doubling the boom length doubles the gain. That's about an extra 3dB. They can be very effectively stacked, using standard stacking distances for Yagis based on aperture, which of course is related to boom length.

The standard version at 1296MHz has 34 elements on a 2.7m boom. The original article claims a gain of 22dBd. A very respectable figure. Although it would be hard to duplicate this at 435MHz, the proof of the pudding is in the eating, and they do perform remarkably well on the 70cm band with boom lengths around 4.5m. Of course, you can stack shorter antennas to give similar performances to longer booms.

The antenna consists of a screen mesh reflector and circular (loop) elements. The loop elements, ie reflector, driven element and directors, are all screwed to a metal boom, making the whole device very robust and entirely at DC earth potential. The method of feed removes one of the problems of Yagi antennas, ie what to do with the feedline so as not to distort the radiation pattern. Many home constructors and purchasers of commercial beams overlook this important factor. The cost of neglecting this point is likely to be a distorted front lobe and

many randomly located side lobes. By bringing the feedline out through the boom, the loop Yagi neatly solves this problem. The boom may be bolted directly to a metal mast with no ill effects. Obviously it will need a stand-off if mounted for horizontal polarisation.

Figure 1 shows the general arrangement of the boom and elements. You'll notice there are two reflectors: a loop reflector and a screen reflector. Don't be tempted to leave one out.

Figure 3 shows the general arrangement of the driven element. This is the only part of the antenna where special care is required. If you follow the instructions exactly, the antenna should exhibit an excellent match to 50 ohm co-ax over a wide frequency range.

As an example, for the past 10 years or so I have been taking a loop Yagi belonging to George VK3LA up to Mt Skene on our annual ATV and satellite expedition. It is cut for 426.25MHz, the local simplex ATV frequency. It seems to work equally well from that frequency right up to 435.1 for use with the Oscar satellites. It has a 1:1 VSWR over most of this range, rising to only 1.1:1 at 435.1MHz. It was constructed from the data shown in this article, without any cutting or trimming. It worked first time and it's still working



Loop Yagi used for the 1987 Mt Skene expedition.

perfectly. The photograph shows the antenna on site during the 1987 Mt Skene expedition.

A major activity of the 1990/1991 Mt Skene expedition was the construction of a stack of four such antennas. The stack is featured on this month's front cover. The antennas and framework were built from scratch at the mountaintop campsite. They were built, erected, tested and used for ATV back to Melbourne. The construction crew consisted of Dick VK3ARR, Huntly VK3ZE, Dave VK3TKJ, Graeme VK3NE, Bill VK3WEG and myself. The system was fed through my homemade four-port power divider, and when connected we couldn't measure any reflected power. Needless to say, the stack worked very well indeed.

Loop Yagis can be constructed for any frequency, but of course the sheer physical size makes them a bit unworkable on two metres. We built a 10-element, 2m version for Mt Skene in 1985/6, but the results didn't justify going any further. It worked quite well, but was just too cumbersome. They really shine in the region from 300MHz to 2.5GHz. It's possible, with care, to get one going very nicely on 2.4GHz. A stack of four such antennas is still merely tabletop size! On the 70cm band it would be hard to find a better antenna. On 23cm they are equal in performance to a well-illuminated four-foot dish. Four of them in a stack should equal an eight-foot dish. Quite a performance.

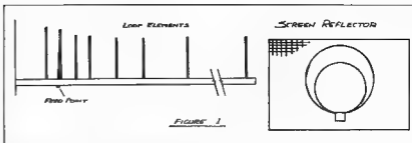
The computer program in Table 1 can be used to calculate the element sizes and spacings and other construction details which are proportional to wavelength. The program is written in a "Basic" which should run on IBM-PCs. It will be uploaded to the VKNET BBS system. Look for LOOPYAGLBAS in the files. I have a more comprehensive program for BBC micros. If you have a "beeb" don't hesitate to contact me, QTHR. The program will accept any frequency, even silly ones. The scaling should be accurate enough between 100MHz and 2.5GHz. I've got silly stoppers and graphics etc in the original, but figure 4 and the BBS versions have been stripped down for publication.

Table 2 shows a sample printout for 432.150MHz and 1296.250MHz. You can use the details to construct loop Yagis for those frequencies.

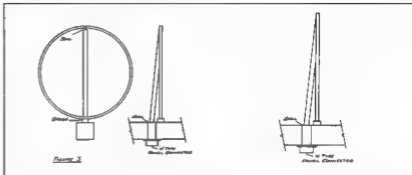
Now some construction notes ...

1. The boom

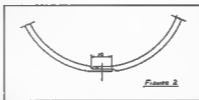
This is best made from square section aluminium tubing. The size will depend on the frequency. Twenty-five millimetres or one-inch-square is suitable for 70cm but, for 23cm antennas and beyond 3/4-



General arrangement of boom and elements.



General arrangement of the driven element.



Method of construction for reflector and directors.

inch or 1/2-inch should be okay. Don't make it too small in section as the feed line passes through the boom and this may weaken it if its section is too small. Longer loop Yagis may require the boom to be held straight with nylon guys or strengthened by doubling up on thickness near the centre. It's very important that the boom does not droop down at the ends. Make sure you seal the ends with plastic or rubber caps and silicone sealant.

2. The elements

Apart from the driven element, all others are made from small diameter aluminium tubing, 5mm down to 3mm diameter, depending on the frequency. The RSGB article uses 3/16" by 20 SWG metal strips for the elements. This will work well at frequencies above 1GHz, but at lower frequencies the strips tend to vibrate in the wind, causing annoying noises and premature failure due to crack-

ing. It's probably best to stick to small diameter tube. The loop reflector and directors are made as shown in Figure 2. Add 10mm to the calculated circumference to get the total length of each element. Then squash 10mm at each end flat in a vice or with a hammer. Be careful to keep the two flats in line. A hole is drilled in each flattened end so the distance between the holes is exactly the required element circumference. The elements can be formed into their final circular shape by hand bending around a suitable size circular object, eg a jam tin or piece of pipe. If you're making a number of antennas involving lots of elements you may like to construct a bending jig to do this job. The elements can be screwed or pop riveted directly onto the boom. The entire antenna can be painted with zinc chromate when finished, so it's not a bad idea to put a spot of zinc chromate under each screw when mounting the elements. All directors are the same circumference. After director 4, all spacings are the same. This makes extending the boom length a breeze.

3. The driven element

Refer to Figure 3. The driven element is made from flattened copper tube the same diameter as the other elements. There's nothing magic about copper's conductivity or anything like that, it's just that it's easier to solder and we need to connect the feedline to it. Begin by

flattening your copper tube. It will probably be necessary to anneal (soften) the tube before you flatten it. This can be done by passing it through a gas flame on the kitchen stove. It's not absolutely necessary to flatten the tube, but a flattened tube is easier to mount at the bottom and make connections to at the top. And it won't fill up with water! Carefully measure the circumference and cut exactly to length. You don't have to add a bit like you do on the other elements. Then drill a 1mm hole as close as possible to each end. These are for soldering the co-ax. It's probably best to drill the mounting hole in the centre after you bend the tube into a circle. That way it won't kink when you make the bend. Leave a 2mm gap at the top.

Now this next bit is very important. The driven element has to be deformed (squashed) into an ellipse. The distance from the mounting hole to the feed point is made slightly shorter than the width. See Figure 3. The exact difference is calculated by the computer program. It amounts to about 0.025 of a wavelength. The driven element is mounted on a metallic spacer to raise the centre back to where it would have been if the driven element was a perfect circle. A small scrap piece of aluminium will do the job here.

4. The feed arrangements

The co-ax is brought down from the top of the driven element and through a hole in the boom as close as possible to the bottom centre of the driven element. The outer braid has to be bonded to the bottom centre of the driven element. (See Figure 3). This is best accomplished by mounting an "N" type panel connector (or BNC for smaller booms) through the boom from the bottom. A piece of 50ohm co-ax goes up to the feed point where it is carefully trimmed and soldered across the gap using the 1mm holes as anchors. Make sure all holes in the boom are sealed with silicone sealant. The actual feed point can be sealed with a small blob of 732 RTV. Use the type which is marked non-corrusive on the tube. It is easily identified. It does not smell like vinegar. The "N" type or BNC connector protruding from the bottom of the boom makes a very convenient way of connecting and dressing the feed line without it getting tangled up in the antenna and affecting the radiation pattern. Remember "N" type connectors are waterproof, BNC connectors are not. If you use a BNC, you'll have to seal it for a permanent installation. You don't have to use a connector there, but if you just bring the co-ax through the boom you'll need to remove a bit of the outer plastic insulation and bond the

outer conductor of the co-ax to the bottom centre of the driven element by soldering.

5. The screen reflector

This is made from a rectangular piece of galvanised mesh at lower frequencies, or expanded aluminium at higher frequencies. See Figure 1.

Its sizes and position of mounting are calculated in the computer program. It's fixed to the end of the boom by small brackets. You can reinforce the edges with thin aluminium strips or by folding them over.

6. References and acknowledgments

The original article can be found on pages 8.48 to 8.49 of the *RSGB VHF/UHF Manual*, 3rd edition, by Evans and Jessop.

Thanks to George VK3LA for a lifetime of experience and many hours spent devising the best way to construct these antennas. The master.

Thanks to Dave VK3TKJ for help in translating the program from the original BBC Basic to IBM.

Thanks to Dick VK3ARR for encouragement during long construction sessions in his school science lab, very frequently going into the wee small hours.

Table 2. Sample printouts for 432.150 and 1296.250 MHz.

Required frequency of operation in MHz 432.150

Circumference of reflector	29.00 inches or 736.60mm
Circumference of driven el	27.68 inches or 703.08mm
Circumference of directors	27.74 inches or 708.43mm
Screen to reflector	9.30 inches or 236.14mm
Reflector to driven element	2.85 inches or 72.36mm
Driven element to director 1	3.36 inches or 85.31mm
Director 1 to director 2	2.49 inches or 62.72mm
Director 2 to director 3	5.34 inches or 135.59mm
Director 3 to director 4	5.34 inches or 135.59mm
All other director spacing	10.68 inches or 271.18mm
Width of screen mesh	16.83 inches or 427.35mm
Height of screen mesh	13.60 inches or 345.56mm

Screen mounting hole centre is 2.02 inches or 51.00mm from bottom of mesh.
Overall boom length, including allowance at end = 318 inches or 8077mm.
The driven element is deformed into an ellipse 0.76 inches or 19.20mm less in height than width and spaced 0.38 inches or 9.60mm above the boom.

Required frequency of operation in MHz 1296.250	
Circumference of reflector	9.87 inches or 245.57mm
Circumference of driven el	8.23 inches or 209.40mm
Circumference of directors	8.25 inches or 209.51mm
Screen to reflector	3.10 inches or 78.72mm
Reflector to driven element	0.95 inches or 24.13mm
Driven element to director 1	1.12 inches or 28.44mm
Director 1 to Director 2	0.83 inches or 21.08mm
Director 2 to Director 3	1.78 inches or 45.20mm
Director 3 to Director 4	1.78 inches or 45.20mm
All other director spacing	3.58 inches or 90.41mm
Width of screen mesh	5.54 inches or 140.80mm
Height of screen mesh	4.54 inches or 115.20mm

Screen mounting hole centre is 0.67 inches or 17.00mm from bottom of mesh.
Overall boom length including allowance at end = 106 inches or 2692mm.
The driven element is deformed into an ellipse 0.25 inches or 6.40mm less in height than width and spaced 0.13 inches or 3.20mm above the boom.

10 REM loop yag calculator by GRI Magnusson VK3JIT.

20 CLS

30 INPUT "Required frequency of operation in mhz. "P

40 P1 = 435.5:R = 28.776853:DE = 27.67451:D = 34.55109:SR = 9.32523:SDIE = 2.8270952

50 SD1 = 3.3029964:SD2 = 2.4699884:SD3 = 5.2970066:SD4 = SD3:SD5 = 10.594167

60 SL = 16.5:SW = 13.5:SH = 2.50 = 0.75:SP = 0.75

70 L1 = (P1)*R/P:L2 = (P1)*D/R:L3 = (P1)*D/L4 = (P1)*SR/P:L5 = (P1)*SDIE/P

80 L6 = (P1)*SD1/P:L7 = (P1)*SD2/P:L8 = (P1)*SD3/P:L9 = (P1)*SD4/P:L10 = (P1)*SD5/P

90 L11 = (P1)*SL/P:L12 = (P1)*SW/P:L13 = (P1)*SH/P:L14 = (P1)*SP/P:L15 = (P1)*SH/P

100 BL = L4 + L5 + L6 + L7 + L8 + L9 + (L10)*27 + (L11)*27

110 PRINT STRING(79,"")

120 PRINT USING "CIRCUMFERENCE OF REFLECTOR = ###.## inches or ###.## mm":L1,(L1)*25.4

130 PRINT USING "CIRCUMFERENCE OF DRIVEN EL = ###.## inches or ###.## mm":L2,(L2)*25.4

140 PRINT USING "CIRCUMFERENCE OF DIRECTORS = ###.## inches or ###.## mm":L3,(L3)*25.4

150 PRINT USING "SCREEN TO REFLECTOR DIST = ###.## inches or ###.## mm":L4,(L4)*25.4

160 PRINT USING "REFLECTOR TO DR ELEMENT = ###.## inches or ###.## mm":L5,(L5)*25.4

170 PRINT USING "DR ELEMENT TO DIRECTOR 1 = ###.## inches or ###.## mm":L6,(L6)*25.4

180 PRINT USING "DIRECTOR 1 TO DIRECTOR 2 = ###.## inches or ###.## mm":L7,(L7)*25.4

190 PRINT USING "DIRECTOR 2 TO DIRECTOR 3 = ###.## inches or ###.## mm":L8,(L8)*25.4

200 PRINT USING "DIRECTOR 3 TO DIRECTOR 4 = ###.## inches or ###.## mm":L9,(L9)*25.4

210 PRINT USING "OTHER DIRECTOR SPACING = ###.## inches or ###.## mm":L10,(L10)*25.4

220 PRINT USING "WIDTH OF SCREEN MESH = ###.## inches or ###.## mm":L11,(L11)*25.4

230 PRINT USING "HEIGHT OF SCREEN MESH = ###.## inches or ###.## mm":L12,(L12)*25.4

240 PRINT STRING(79,"")

250 PRINT USING "Screen mounting hole centre is ###.## inches or ###.## mm from bottom of mesh":L13,(L13)*25.4

260 PRINT USING "Overall boom length including allowance at end = ###.## inches or ###.## mm":BL,(BL)*25.4

270 PRINT USING "The driven element is deformed into an ellipse ###.## inches or

###.## mm less in height than width":L14,(L14)*25.4

280 PRINT USING "It is spaced ###.## inches or ###.## mm above the boom on a metallic spacer":L15,(L15)*25.4

290 PRINT STRING(79,"")

300 END

Table 1. Computer program to calculate element dimensions and spacings.

The Compact CMOS Super Keyer II

KAROL NAD VK2BQQ, GPO BOX 3209, SYDNEY 2001

HERE IS A TERRIFIC IDEA that can be accomplished with little effort and virtually below \$150, and with positive and negative

keying outputs

Interested in a simple but exciting keyer for CW operation? I have got news for you. I recently completed a keyer known as the CMOS Super Keyer II which appeared in November 1990 QST.

After using this rather interesting keyer for a while I thought it would be good to share some of my experiences and impressions with others.

The Keyer

The CMOS Super Keyer II offers a host of features previously not found in morse keyers. But the original circuit has one drawback! The output keying is taken from Q1 which will handle low-voltage and positive skyline transceivers only, and lack of side tone volume control. Therefore, only one solution remained: to modify and implement the circuit.

At the output of Q1 (junction of R16, R18 and R17) a logic level of about 10mV represents the key-down state. This output produces enough current to turn on Q3 and the rest of the keying-interface circuit. See circuit diagram Fig 1.

This remarkable one IC keyer provides:

- An iambic keyer with dot and dash memories.
- Character and real time messages.
- Message loop capacity
- Contest serial number.
- Adjustable weighting.
- TX key-down function.
- Keyer-status inquiry function.
- Selectable automatic character spacing.
- Input queue to store multiple message activation, and many more
- Four 48-character messages.
- Analogue and digital speed control.
- Message break-in to allow for paddle inserted text.

How does the Compact CMOS Super Keyer II provide all this? Commands are sent to the keyer in morse code using the paddle. A detailed explanation of the operation and all features of keyer is given in November 1990 QST.

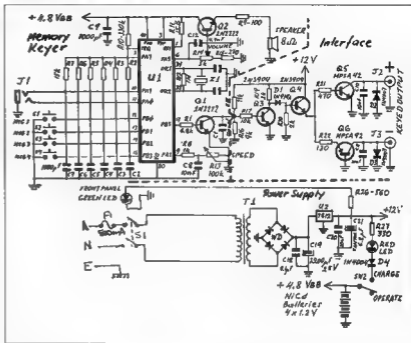


Figure 1

Parts: Keyer

The PC board and associated components are available as a partial kit from Idiom Press, Box 583, Deerfield 60015, USA. The price is \$US45 and \$US5 for surface-mail foreign orders. The rest of the parts are obtainable from several sources. Diecast box, part number 26827PSL, \$14.11 from Farnell Electronics, 72 Ferndell St, Chester Hill, NSW 2162.

S1-24 SPST push-button switch p nr 275-1566 from Tandy. Speaker C-2222, stereo and plug and two RCA sockets from DSElectronics. Linear potentiometers R13-100k and R14-5k from David Reid Electronics, 127 York St, Sydney. Other components not supplied with the keyer are: C12-4.7nF, R15-270 Ohm 1/4W.

Interface

The key interface will key virtually any modern or vintage transceiver. Use the positive keyed output jack to key cathode keyed and most transistor keyed transceivers. Use the negative keyed

output jack to key grid block keyed transceivers. Please note that transistors Q5 and Q6 are of a type capable of withstanding - or + 300V in the KEY-UP condition, and 200mA in the KEY-DOWN position for the positive output, and 30mA for the grid block. If you connect your transmitter key input to the wrong keyed output, either the transmitter will not key, or it will be keyed continuously. To correct the situation, simply plug the output line into other output jack. No damage should occur to either the transceiver or the keyer if you connect it to the wrong keyed output jack.

Parts: Keying Interface

Q3, Q4-2N3904, Q5-MPSA42, Q6-MPSA92 from Farnell Electronics. R16-R22 1/4W 1% from David Reid Electronics. PC board p nr 276-159 from Tandy Electronics.

Power Supply

Regulated and battery DC supplies assure the performance of the keyer is not affected by variation in line voltage

and drop-out. Use a shielded diecast box and the filter in the primary circuit of T1 for 100 percent RF immunity. These precautions may not always be required, but it is safest to put in, rather than having to add it on later.

A built-in rechargeable battery buffers the complete data memory system, thus maintaining all stored data and settings. During the use of the keyer the batteries are trickle charged at a rate 12mA via R27, with D4 isolating the batteries from the rest of the circuit. The keyer can be used with SW2 at either position.

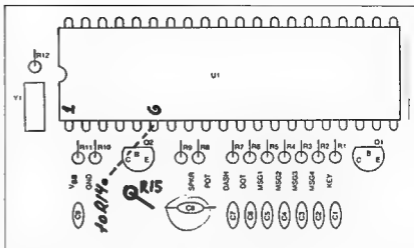
A fully charged battery will retain the memory data for approximately six months with the keyer switched off. A well regulated +12V with very little ripple content supplies the keying interface circuit.

Parts: Power Supply

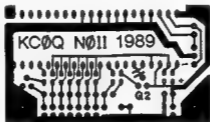
L1, L2-25uH p nr 178-331 and L3-4uH p nr 178-329 from Farnell Electronics. C13-C16 5.6nF/3kV p nr R-2395, C17-47nF/250V AC p nr R-2750, T1 p nr M-2155, WD p nr Z-3304, U2-voltage regulator 7812, LED green Z-4087, LED red Z-4085 from Dick Smith Electronics.

Checkout Procedure

On completion of the memory keyer section, connect a battery, an OK in morse should be audible in the speaker, confirming that the keyer section is correctly working. To check the keying interface,



Part-placement guide. C12 is soldered to U1 pin 6 on the foil side.



Circuit board etching pattern shown in full size. Cut foil between Q2b and U1 pin 6.

connect it to a +12V supply and apply 10-20mV DC to the input (junction of R16, R18 and R17) which should produce 0.7V at the negative keyed output and 10-15mV at the positive keyed output. Equally, shorting resistor R16 should produce the same result.

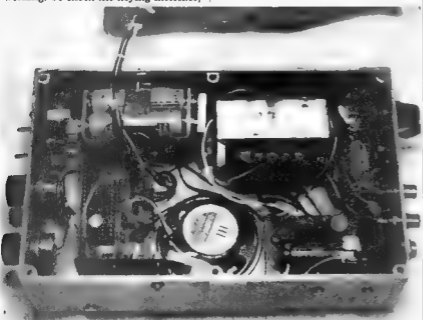
A detailed manual is supplied with the main components. I recommend that you read it thoroughly to acquaint yourself with the keyer and to ensure the unit is operating properly.

Editor's Note

This unit contains a programmed microprocessor (U1 is a 68HC705) Anyone contemplating construction of this keyer should obtain this microprocessor first. Only the supplier, Idiom Press, can guarantee the software in the microprocessor. A 6805 obtained "off the shelf" will not work in this keyer. While other components can be substituted, there is no alternative to a correctly programmed microprocessor.

The keyer, as originally described, contained a mains filter made from discrete components. This filter has been removed from the schematic. As this unit has a charge/operate key, I do not believe the operation of the keyer will be affected.

ar



A close-up view of the completed Compact CMOS Super Keyer II.

Multiband Inverted V for the Z Match Antenna

ADRIAN FELL VK2DZF, PO Box 344, BAULKHAM HILLS 2153

Introduction

THE FOLLOWING multiband wire antenna system which I have just constructed, and which is described in detail in this article, was prompted by some quite important reasons.

Firstly, I had just finished building the compact coil version of the Z match coupler and, during experiments with different antennas, discovered that arcing problems were, well, in my case, completely eliminated. This was, in part, due completely to the correct choice of antenna and feeder.

Secondly, I was to install a wire antenna that not only worked well on all HF frequencies (sorry I do not include WARC) but also able to fit neatly into my outer Sydney suburban block of land.

It is no accident that our only means of support for antennas are two 70ft tall gum trees; it's one reason why we selected (my wife is VK2ELF) this location. We have a 20m quad loop up between the two trees, and it works extremely well. The other reason for installing this multiband antenna was that during the last mini-cyclone Sydney experienced we lost two of our wire antennas (80 and 20 metres), so it was now time to tidy things up and simplify this mess.

The Antenna

The schematic diagram of the Z match coupler is shown in figure 1 (see the reference also) and I chose to construct the compact coil version, but there are other alternatives around. After some experimenting (combining theory and practice) it was apparent that if the length "L" in figure 3 was a non-resonant length at any operational frequency (WARC users take note) this was a near ideal situation for my little Z match.

Length "L" (Figure 3) can be juggled between A-B and B-C once "L" has been determined without too much drama. It must be pointed out though, that if dimensions (Figure 2) are changed too much, the electrical conditions will also change. Refer to Table 2 for an example. The first serious length I tried for distance A-B was the famous G5RV length of 51 feet. This also fitted nicely into the back yard with 94 feet of feeder. Every

band tuned up very well except 20 metres, where C1 was at a maximum of 425pF. This annoyed me somewhat! Shortening the feeder from 94 feet to 90 feet (four feet shorter) and adding that four feet to each end of the antenna, improved matters quite a bit, especially on 20 metres (see Tables 1 & 2). C1 was now 117pF, and all other frequencies were acceptable. There were some combinations of A-B and B-C that caused some unfavourable conditions and those have been listed in Table 2. In conclusion to the above, it would appear that not only does "L" have to be a non-resonant length, but its distribution between the antenna and feeder must be given great thought if we are to present the Z-match with an ideal set of parameters. My final choice (yours may be different) was 145 feet for "L", and the way I have distributed "L" is shown in Figure 2. Length "L" (Figure 3) does not necessarily have to be 145 feet long, 109 feet or 95 feet are two other shorter alternatives to try if a 90 feet feeder is way too long. If the 28MHz band is not required, any between 95 feet and 109 feet could be tried. As these lengths are way too short for my property, I have not tried them, so the results on 80 metres are a bit unsure regarding the maximum input watts the Z-match will take before arcing takes place. The 110 feet of the antenna is five half-wave lengths at 21MHz and when the extensions of 11 feet are connected it is a half wavelength long at 80 metres.

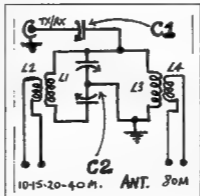


Figure 1: Schematic diagram for Z-Match coupler.

All in-between frequencies are a mixture, and it is similar to the way the G5RV works. Interested readers should refer to the RSGB for further details.

80 Metres (and Arcing)

Eighty-metre operation held quite a few surprises for me, and luckily I had picked up early in the tests that, unless I had a half-wave-length of wire in the antenna sections (again the feeder length must also be the correct length), I would experience some degree of arcing from the capacitor C2 (Figure 1). The amount of arcing would depend on the varying dimensions, and some examples are listed in Table 1. Even C1 could cause lightning belts, but this condition was very rare and one should not experience problems from C1. The watts listed in Table 1 should be self-explanatory, but I cannot give the breakdown point above 100 watts as that is all the carrier power I can produce from my ageing TS620S. The 40W and 70W listings for the 3.600 section are just prior to arcing taking place in C2. It's interesting to note that just because one may have a perfect match of 1:1 VSWR, it doesn't indicate the whole story, but it's (sometimes) fun finding out. The finished result is shown in Figure 2, the 11 feet sections only being used for 80 metres. One can obtain a match on other frequencies with these still connected, except for 21MHz which doesn't match very well. It's worth trying the difference at 28MHz with the extensions on and off.

Feeder Selection

I used 300Ohm TV ladder line (the type used in fringe areas, part number BC1682). Spacing is about 0.72 inch, spreaders every eight inches, and a wire size is about 1mm thick. This stuff is not the best in the world to work with, but if some tension is applied with nylon at each end (hard to explain) the shape holds better. Experienced amateurs should not only prefer other methods, but probably have perfected their own construction, and these people should be asked by the inexperienced. There is always the old trusty ARRL and RSGB handbooks for electrical and mechanical advice on feeder systems.

advice on feeder systems.

Figure 4 shows the method I used at the feedpoint between feedline and antenna. Stripped RG58U braid makes a good flexible connecting wire (as shown) and you can use the sheath as an insulating sleeve. After soldering, you can cover the joint with "Five-minute Araldite" for extra strength and protection from the elements.

Polar Response

At a guess I would estimate that on 80 metres and 40 metres and up, I would expect some major lobes to be directed off the sides (left and right in Figure 2) because the wires are arranged like an end-fed vertical beam. I don't think I will lose any sleep about the lobe direction as I cannot rotate the antenna if it's unfavourable, but it's worth considering before making a final decision on how the antenna is rotated.

Thanks

I would like to thank the two Rons, Ron Cook VK3AFW and Ron Fisher VK3OM, for their published data on the compact Z-match; add another happy Z-match user to your list. Also, thanks to Dean Probert VK5LB and Lloyd Butler VK5BR, who published some very useful information on the Z-match. These articles are listed in the references.

Final

It must be emphasised that, although this antenna/Z-match combination of mine has performed to my expectations, variables in other stations will not necessarily guarantee the same results. Good luck and 73.

References

1. VK5LB "Z-match construction", *AR* May 1989
2. VK5BR "Analysis of the Z-match", *AR* May 1989
3. VK5BR "Tests on compact coil Z-match", *AR* December 1990
4. VK3OM & VK3AFW "Ronymous Z-match", *Random Radiators*, *AR* March 1990
5. VK3OM & VK3AFW "Picking the right feeder length", *Random Radiators*, *AR* July 1990
6. "Transmission Lines" *ARRL Antenna Handbook*.
7. G6XN "HF antennas for all locations" *RSGB*
8. "HF Antennas", *RSGB Radio Communications Handbook*

Addendum

The original design of the antenna did not allow for the WARC frequencies, but in practice the WARC bands tune up very

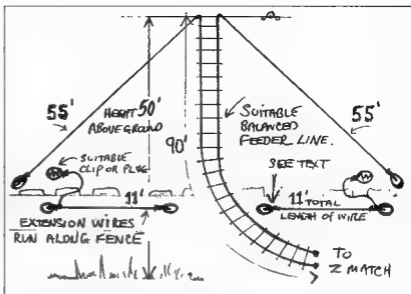


Figure 2: Complete antenna installation.

VK2DZF Multiband Antenna/Z-Match Coupler**

Feeder Length	Antenna Length (Total)	Freq	Watts RMS	Coil Type*	VSWR	Antenna Extension	C1 (pF)	C2 (pF)
90 feet	110 feet	29,000	90+	Small	1 to 1	No	148	34
90 feet	110 feet	28,450	90+	Small	1 to 1	No	45	45
90 feet	110 feet	21,150	90+	Small	1 to 1	No	91	63
90 feet	110 feet	14,150	100+	Small	1 to 1	No	117	196
90 feet	110 feet	7,050	100+	Small	1 to 1	No	89	55
90 feet	110 feet	3,800	40 max	Small	1 to 1	No	89	331
90 feet	110 feet	3,600	70 max	Large	1 to 1	No	104	325
90 feet	132 feet	3,800	100+	Large	1 to 1	Yes	174	285

**Compact Coil Version *Small: L1-7T L2-6T, Large: L3-10T L4-7T (Fig 1)

Table 1: Note how power input can be limited depending on ant and coil used, when operating on 3.5MHz Band. These power figures are input to the Z-Match

Feeder Length	Antenna Length (Total)	Freq	Watts RMS	Coil Type*	VSWR	Antenna Extension	C1 (pF)	C2 (pF)
90 feet	102 feet	21,150	Would not tune			No	N/A	N/A
94 feet	102 feet	21,150	90	Small	1 to 1	No	90	90
90 feet	132 feet	21,150	Would not tune			Yes	N/A	N/A
94 feet	102 feet	14,150	100+	Small	1 to 1	No	425	124

Table 2: Above are examples of figures that proved unsuitable.

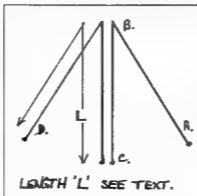


Figure 3: Antenna and feeder length.

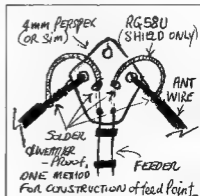


Figure 4: Feed point connections

well using the 90' feeder length and 55' per side antenna dimensions. There may be a more optimum set of dimensions to be arrived at to include WARC, and the experimenter should refer to *ARRL* and *RSGB Antenna Books* for details.

The details are as follows:

	Freq	VSWR	Power Used	C1	C2
(12m)	24.940	1 to 1	100W RMS	66pF	31pF
(17m)	18.100	1 to 1	100W RMS	83pF	105pF
(30m)	10.125	1 to 1	100W RMS	77pF	305pF

With my Z-match and using the VK2DZF inverted V I can apply about 120 watts CW carrier before C2 starts to arc. This limit of power should satisfy users of most of today's modern transceivers and most of the older valve final types, like the FT101 and TS520 etc. Considering the antenna is a compromise, performance is very good indeed, 10m being its weak area. Fifteen metres down is quite good. The antenna with a Z-match would be an excellent aerial for the SWL, the 11' extensions not being required.

73 ADRIAN ar

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FT290 Modifications

BRUCE JONES VK4KIT, 57 BRETT AVENUE, MOUNT ISA 4825

Microphone Noise Reduction

VHF PORTABLES SUCH as the FT290 are meant to take everywhere. Often there is too much mike gain for noisy environments. As the gain control is preset inside the radio you cannot just turn it down because you will hardly be heard when returning to a quiet shack. What is needed is something to reduce the mike gain only when required. This is neatly done using the scan lock switch on the mike itself.

Referring to the schematic, the "up down" switches are normally enabled via a connection to earth through the "Lock" switch. To "Lock" the earth is removed.

However, the "Lock" switch is a changeover type and applies the earth to a spare contact when in the "Lock" position.

This contact is used to connect a low-value resistor in a shunt path across the mike insert. In my case, the resistor is soldered on the pcb inside the microphone case. A value of 12 ohms is suitable for use in light aircraft or for very noisy mobile conditions.

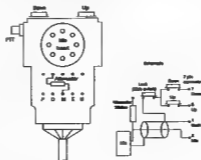
Try a higher value if your situation is a little quieter, say 100 ohms or so.

Operation is simple and does not interfere with the scan buttons either. Just set the "Lock" switch to "Lock" and the attenuator is in circuit. The scan function is disabled while you have your QSO. Not a problem!

The only catch is that you cannot use the "Lock" function while operating in a quiet environment. However, the need for this feature is usually not required when stationary etc.

I'm sure this principle may apply to other equipment.

Happy mobile/portable operation!



FT290R noise reduction.

Squelch Improvement

EVER NOTICED THAT if you set the squelch on your FT290 to need a good signal to open it, then back it off for a weak signal, it stays wide open once tripped? This is called hysteresis and is undesirable if you often work weak signals.

Operation of Squelch

When the set is squelched Pin 13 of Q1019 is approximately five volts and is less than one volt when unsquelched. If a portion of this is fed back to the squelch control pot the hysteresis is reduced. An 81k resistor is all that is required.

Installing the Modification

In finding the correct place to install the resistor, I determined components by measurement of DC signals rather than tracing the circuit. You need not remove the circuit board.

Locate at the end of Q1019 what I think is R90 mounted vertically. The exposed end of this resistor is connected to Pin 13 of the IC, so scratch some of the paint off and check this with a multimeter for zero ohms. If correct, scrape off sufficient paint and tin with solder.

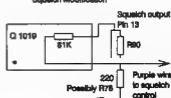
Near this, close to pin 8, is another vertically mounted resistor, possibly R78, with the top end connected to a purple wire which goes to the squelch control. This is the second connection point. Solder the modification resistor to these points. Do not disconnect anything. The resistor can lie down on top of the IC.

The value of resistor is determined by experiment. I used an 81k resistor.

If the value selected is too low, the squelch will cycle on and off when finely set. There is some dependence on supply voltage, so check operation on a supply as well as on batteries.

The modification will enable the full sensitivity of the receiver to be used.

Squelch Modification



ar

Mini Equipment Review

RON FISHER, VK3OM.

The Yaesu SP-4 and SP-5 Extension Speakers

IF YOU WANT THE BEST audio reproduction from your transceiver, a good external speaker is essential.

It's essential for several different reasons depending on how your equipment is used and installed. Here is the story of two different external speakers that would probably be used for different reasons. Both are produced by Yaesu and obtainable from most Dick Smith outlets.

THE SP-5.

The SP-5 is a base station speaker designed to complement the new Yaesu FT-1000 and the FT-990 transceivers. It matches them in both size and colour and also presents the correct impedance to the external speaker sockets on these rigs. Of course you can use this speaker with any brand of transceiver if you are looking for top quality audio. The SP-5 measures 230mm wide, 150mm high and 294mm deep. It weighs in at 3kg. The important part of it, the speaker, is a high quality Foster unit with a diameter of 120mm. It is fitted with a most substantial magnet to produce a very high efficiency and a good transient response. The overall frequency response is rated as 100 to 12,000Hz but this can be tailored to suit the signal being received with five inbuilt filters. These are: 1. cut below 300Hz; 2. cut below 600Hz; 3. cut above 700Hz; 4. cut above 1kHz and 5. cut above 2.4kHz. The low frequency filters use non-polarised electrolytic capacitors, and the high frequency filters use inductive networks. The networks are designed to produce a cutoff rate of 6dB per octave that is the 300Hz filter will be down 6dB at 150Hz.

So, how does all of this work out in practice? I must admit that I prefer to use a wide range speaker and let the transceiver do the filtering of the audio. If the transceiver has an audio section with low distortion and a good IF filter to suit the mode of operation, a good speakers system should produce an ideal response. However, in the real world things are not always perfect and this is where you can tailor things to suit your own requirements.

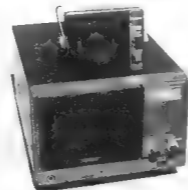
Many older transceivers had rather wide filters and product detectors with somewhat high distortion and even audio amplifiers with high noise levels. This is where audio filters come into their own. A sharp high-cut filter will make



The Yaesu SP-4 speaker. Note mounting bracket making it suitable for either home station or mobile use.



Internal view of the SP-5 circuit board. In foreground is the filter network. Note the solid speaker used.



The Yaesu SP-5 with the SP-4 on top.

listening much more pleasant without removing any of the wanted audio response. The SP-5 will do all of this for you.

I checked the overall frequency response by feeding an audio oscillator into it. Apart from a slight rise in output around 500Hz, which would be normal for a speaker of this type in a metal cabinet, the overall output sounded very smooth. Music reproduction on broadcast transmissions was quite acceptable. By the way, the SP-5 has a headphone socket on the front panel that is fed via the filters. There is also provision to take the audio output from a second receiver, if required. In all, a highly recommended speaker. Try one - you might be amazed just how good some SSB signals can sound. The SP-5 is priced at \$199.

THE SP-4.

This speaker is designed for mobile use or for fixed station use where space is limited. It measures 110mm wide, 90mm high and 40mm deep and comes with a fully adjustable mounting bracket. The actual speaker is 70mm in diameter and is rated to take three watts of power at eight ohms. The button at the bottom right-hand side is a noise filter which is an electrolytic capacitor switched across the speaker voice coil. In other words, a top cut tone control. In use, the speaker produces very clear audio although, as might be expected, the low frequency response is very limited. My oscillator test showed very little output below 500Hz, although the high end extended up to 10kHz. Under many conditions a limited low end output can be quite an advantage and, for mobile use, would be ideal. The SP-4 is nicely finished and comes with a long connecting lead fitted with a 3.5mm plug which suits most amateur transceivers. At \$39.95 it is good value. Our thanks to Dick Smith Electronics for the loan of these two speaker units. ar

**Repeaters -
additions, deletions,
alterations. Have you
advised the WIA of
changes needed to
the repeater list?**

In the article, "A Great Circle Distance Program" written by the late Wally Middleton VK3IT and shown on page 16 of the January issue, an error occurred due to typesetting the program instead of photocopying. Line 240 should have read

240 d = ACOS(SIN(a)*SIN(b) + COS(a)*COS(b)*COS(c))

On the same topic, the letter from J H Knowles VK3JK, published under Technical Correspondence on page 7 of the February issue, should have shown a revised computer program. This is belatedly presented now.

The program "CW Trainer" in March AR (p7) has two small errors. Line 480 should read DATA 131 (not 313) then no change until the last group which should be 3311 (not 3113).

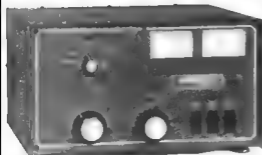
Remember to leave a three second break between overs when using a repeater.

```

10 REM: THIS PROGRAMME CALCULATES THE GREAT CIRCLE DISTANCE AND BEARING FROM ANY
    LOCATION TO ANY OTHER TARGET LOCATION.
20 REM: LATITUDE NORTH IS POSITIVE, SOUTH IS NEGATIVE LONGITUDE WEST IS
    POSITIVE, EAST IS NEGATIVE.
30 REM: CONVERT HOME LATITUDE TO RADIANS
40 N = (HOME LATITUDE)
50 GOSUB 260
60 A = T
70 REM: CONVERT HOME LONGITUDE TO RADIANS
80 N = (HOME LONGITUDE)
90 GOSUB 260
100 LONGS = T
110 INPUT "Target latitude deg":iN
120 GOSUB 260
130 S = T
140 INPUT "Target longitude deg":iN
150 GOSUB 260
160 LONGF = T
170 F = LONGF - LONGS
180 P = SIN(A)*SIN(B) + COS(A)*COS(B)*COS(F)
190 B = ATN(-P/SQR(1-P*P))*3.142/2
200 PRINT USING "Distance in kilometres #####" B*6366.78
210 P = (SIN(B) - SIN(A)*COS(D))/COS(A)*SIN(D)
220 C = ATN(-R/SQR(1-R*R))*3.142/2
230 IF SIN(F) < 0 THEN PRINT USING "Bearing degrees ###" C*57.2968 ELSE PRINT
    USING "Bearing degrees ###" C*57.2968
240 END
250 REM: Subroutine to convert degrees minutes to radians
260 U = FIX(N)
270 V = N - (U)
280 T = (U*60 + V)/3437.748
    
```

AMERITRON

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Shades of the magnificent past! Remember the days when a power amplifier looked like it meant business and was heavy enough to convey the message? Well those days are back! Ameritron, one of the USA's leading amateur power amplifier manufacturers has released an amplifier using three 811A tubes in Class AB2 grounded grid to deliver a clean, comfortable 600W PEP. The AL-811 amplifier needs only 40W of drive for the VK legal limit. Best of all the cost of running the AL-811 is low, and a new set of tubes will only cost \$105 not \$350 - \$700 or more for other amplifiers using more exotic tubes.

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- Vernier anode tuning
- Large twin meters
- Safety interlock

Ameritron's choice of the 811A is no accident, nor is it a purely economical one. The 811A has developed an enviable reputation for robustness and reliability over many many years of operation in amateur and commercial service. Its directly heated thoriated tungsten filament is immune to cathode stripping which can ruin an expensive indirectly heated tube in a few milliseconds if the amplifier is mistuned. Ameritron have chosen a simple yet extremely effective input circuit, a single Pi section with a slug-tuned coil for each position of the band switch. The slugs of the coils can be easily adjusted without removing the cover so that you can peak the amplifier without danger of being exposed to high voltage supplies.

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Random Radiators

RON COOK VK3AFW & RON FISHER VK3OM.

THIS MONTH WE HAVE our usual selection of antenna ideas we hope you might be tempted to try. But first a plea for help from one of our readers, W Easterling VK4BBL.

So many new cars are devoid of gutters or some other projection to which VHF/UHF antennas can be attached, hence the increase in antennas adhering to the rear window. We'd like to know something about these; where obtainable, what to do and how to tune and adjust, VK4BBL says that at the moment he is using a magnetic mount antenna but the magnet is so good he cannot get the thing off the roof of the car. Some years ago one of us used a magnetic mount antenna for two metres and it worked very well, but when taken off after a couple of years use, it proved to be a wonderful trap for moisture and the roof under the magnet was rather badly rusted. So watch out. Anyway, back to the problems.

The other aspect is roof mounted TV-type masts. Professional installers know exactly where to drill holes in roof tiles so that there will be timber underneath for the screw-eyes for the guy wires. What to attach first—the roof end of the guy or the mast end. Suburban hams are finding it increasingly difficult to put up masts due to smaller building blocks, council restrictions etc. In many cases a roof-mounted trapped vertical or an inverted V is the only choice. Some "roof wisdom" would be very handy to have. Can anyone out there help? We have an idea that through-glass antennas were written up in *QST* some years ago. We'll try to find it.

Now from Bob Kemp VK3CAY comes the story of a TH3-JR triband beam antenna. We'll let Bob tell the story himself.

Tuning the TH3-JR Triband Beam on 20 Metres

Two hams talking First ham:

"I'm delighted, I've just completed a jigsaw after only 1-1/2 years." Second ham: "It took you a long time" First ham: "Oh no, it said on the box, five to eight years!" Well, this story has a lot in common with that jigsaw.

Some years ago, I purchased a TH3-JR slightly second-hand, together with its original small handbook. Also supplied was the balun, as recommended by the manufacturers, Hy-Gain (specifically a BN86, also by Hy-Gain).

This antenna was duly placed in service,

not without some neighbourly comment, but no real drama, and years truly joined the ranks of the avid DXers. Time passed, as it has a habit of doing in spite of us. The TH3-JR was moved, raised, overhauled, and the traps were checked on the station dipper. There was a nagging feeling that all was not well with this antenna's performance. It seemed a bit vague in what was the forward direction. It had gain, but I had expected better. There was a feeling that 20 metres was its worst hand.

More checks, then Des VK3CO had an article published in *AR* February 1988 on

overhaul of the TH3-JR, with dimensions for correct operation. These were exactly as laid down in my handbook, but now they were metric. It should be noted also that the driven element dimensions are measured from the outer wall of the boom, not the centreline of the boom, as is the case for the reflector and director.

Well, tribanders are a compromise and it's not reasonable to expect it to perform as well as a large monobander. Being stubborn (at least my XYL accuses me of this!) I press on regardless of fact, commonsense or reason. With the passing of time, I'm also

Figure 1: TH3-JR Dimensions in millimetres. (Measurements to end of tuning sleeve of trap).

From Hy-Gain Pamphlet

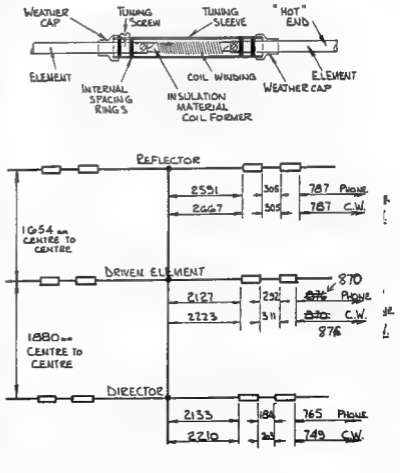


Figure 1: Corrected dimensions for TH3

becoming more crafty and hence check the RF currents in each element, on each of the three bands. Indeed, there is a problem on 20 metres, but what? Is my steel tape wrong? Like the ham and the jigsaw, it was only a question of time before a solution was found. It was so simple; the typesetters of the original handbook had made an error, and yours truly could not see the forest for the trees. I wonder how many TH3-JRs out there are incorrectly tuned? By the way, this antenna is performing very well on all three bands now. On average, it is nearly two "S" points over a dipole and now does have a back-to-front ratio!

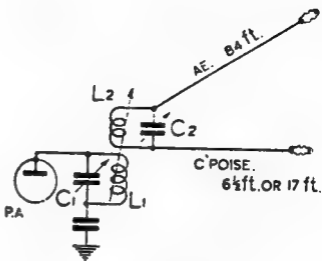
Des, in his article, and my handbook, both show that the driven element and director dimensions are longer on the phone section than on the CW section of the band. It's as simple as that. Ignore the handbook error and reverse these dimensions. Then your TH3-JR works as the designer had intended.

See Fig 1 for corrected dimensions.

Well, Bob, we certainly agree with your findings. Two different editions of the TH3-JR handbook both have the 20m measurements transposed as you suggest, but a TH2 handbook has it right. Just goes to show. Thanks Bob.

The W3EDP Wire Antenna.

Does a certain length of wire produce better results on all HF bands than another length? There are many schools of thought that say yes it does. One such example is the W3EDP. This is an end-fed wire of 84 feet in length working against a counterpoise of either 17 feet or 6.5 feet. Pardon the imperial measurements, but this antenna dates back to the mid 1930s. It was first described in *QST* around 1936, but our first reference is in the *RSGB Amateur Radio Handbook* of 1940. Over more recent years it has appeared in the *Short Wave Magazine* of August 1981 and in the later *RSGB Handbook*. Well what makes 84 feet work better than some other length? The theory is that with the counterpoise the antenna 'looks' like an end-fed Zepp. By the way, its not necessary to run the counterpoise out under the antenna, just run it around the skirting board or across the floor. On 80 metres the antenna is a slightly lengthened quarter wave. On 40- it's an end-fed half wave with 17' Zepp feeders. The counterpoise should be shortened to 6.5 feet on 20 metres and may not be needed at all on 15 and 10. It's a popular antenna with the QRP operators, and the guru of QRP, G3RJV, describes it as "an excellent antenna". Well, so where is the catch? Originating from 1936, it's not fed with coax. An ATU is required. The ATU shown



The W3EDP Multi-Band Aerial.
A suitable value for C_2 is $\cdot 00025 \mu F$.

Band. Mc.	C'psc. Feet.	L2—2" Diam.		
3.5	17	21 turns	16 S.W.G.	spaced
		one diam.		
7	17	7 turns	16 S.W.G.	spaced
		one diam.		
14	6 1/2	5 turns	16 S.W.G.	spaced
		one diam.		
28	0	3 turns	1/2" spacing.	

Reproduced from *RSGB Amateur Radio Handbook* 1940

in the diagram can be replaced with — you guessed it, our old friend the 'Z' match, which will give excellent results. It seems that you might get away with a standard unbalanced ATU. As yet we haven't had time to try out the W3EDP but will be doing so soon. In addition to the 'Z' match, We will be trying a Kenwood AT-120, and will let you know how it works out. One thing that might help in the tuning procedure is an RF ammeter in series with the antenna. None of the descriptions makes mention of this but it could be a worthwhile idea.

By the way, RF ammeters are common at buy and sell days. Grab a couple; they are very handy if you like to play with end-fed antennas. That's all for this month. Hope you have lots of fun playing with antennas. So it's goodbye from him and goodbye from me.

The two Rons.

AR

**Help stamp out
stolen equipment -
always include the
serial number of
your equipment in
your hamad.**

ANNUAL REPORTS FOR 1992 FEDERAL CONVENTION

Published below for members' information are all those annual Federal reports received by the closing date for copy for this issue of Amateur Radio magazine.

ANNUAL REPORT OF THE FEDERAL PRESIDENT FOR 1991

THIS PAST YEAR HAS continued the trend of the increasing benefits from the processes and decisions made a couple of years ago in the Federal sphere of the WIA. The best indicators are the performance of the Federal Office - particularly the excellent way that the examination process was introduced - and the successful financial result. This is a tribute to the management practices that have been introduced over the last few years.

Executive Matters

Federal Office

Bill Roper, as General Manager and Secretary, has continued to bring his management expertise to bear on all aspects of the operation of the Federal Office. This not only includes the Office and its secretariat role to the Executive and the Council, but also the business management of Amateur Radio magazine. This year has seen the successful takeover of the examination process by the WIA from DoTC. The complete system from the accreditation of examiners to the prompt delivery of results to candidates was carefully thought out by Bill in advance. The WIA believes that examinations are now more readily available than ever before, making it easier for new people to enter the hobby and existing amateurs to upgrade their privileges. The system is working well and praise is now being received from many people, including those who were somewhat sceptical in the beginning.

Bill is still providing a considerable voluntary contribution to the work of the Executive Office. This involves work on weekends and public holidays. Further, Bill has not been able to take all of his accrued holidays due to the work load.

Federal Executive

As in the past two years, the majority of the Federal Executive members come from outside of Melbourne. This has continued to bring a wider view of ama-

teur radio matters and has proved to be very useful. The quarterly meetings are working well and there is a much greater sense of purpose and co-operation amongst the participants. The members of the Executive elected in 1991 were Rob Apathy, VK1KRA; Joe Gelston, VK7JG; Ron Henderson, VK1RH (Vice Chairman); Roger Harrison, VK2ZTB; Murray Kelly, VK4AOK; Peter Maclellan, VK3BWD; Kevin Olds, VK1OK; Neil Penfold, VK6NE; Bill Rice, VK3ABP (Editor of Amateur Radio); Terry Ryeland, VK2UX and Bill Wardrop, VK5AWM. David Wardlaw, VK3ADW, was co-opted onto Executive as Immediate Past President. Joe Gelston resigned in December and was replaced by Jim Forsyth, VK7FJ. There has not been anyone filling the position of Treasurer during the year.

During the year the Executive has met on 10 occasions, with four of these meetings being two-day Saturday and Sunday meetings. These two-day meetings have allowed many items to be considered in detail, particularly items relating to the financial, budget and performance aspects of the WIA. Two of the Tuesday evening meetings had to be abandoned because of the lack of a quorum.

The weekend meetings continue to be worthwhile, as a wider group of people are now more aware of what is involved in running the WIA on a daily basis. It has also furthered a better understanding between the divisions and provided a good opportunity for the exchange of ideas. The representation of each Division on the Executive and the weekend meetings are a successful arrangement and should be continued.

Corporate Planning

Since its initial presentation in 1989, the Corporate Plan has been reviewed on a regular basis and changes incorporated as issues were considered by the Executive. A recent review has shown that the majority of objectives have been achieved. Accordingly, it was considered appropriate to review some of the WIA's activities. Accordingly, a recent Saturday afternoon was spent by the Executive conducting a "SWOT" (Strengths, Weaknesses, Opportunities and Threats) analysis. The re-

sults of this activity will be further considered by the Executive in the coming months as new directions are developed for the WIA.

Amateur Radio Magazine

Our magazine continues to improve, which is a tribute to the Publications Committee, the Executive Editor, Bill Rice, the Managing Editor, Graham Thornton and the Business Manager, Bill Roper. Feedback from members on the magazine, particularly the February data issue, has been very positive.

International Matters

As this report is prepared, David Wardlaw and Ron Henderson have been attending the World Administrative Radio Conference in Spain. David and Ron have made significant contributions to the preparation for this conference and have represented the needs of amateurs very well. Close liaison has been maintained with other Amateur Radio Societies (through IARU) and views of other administrations have been noted. We are looking forward to a full report from David and Ron on this important conference when they return.

DoTC Matters

As has been mentioned earlier, a significant change has taken place in the process of examinations. As a result of a number of meetings between the WIA and the DoTC, a significant number of outstanding matters have now been resolved. The most significant change now on the agenda is the issue of "deregulation" - that is the minimisation of the regulations governing the Amateur Radio Service. The tradition of the hobby of Amateur Radio has always been one of self regulation and the WIA believes that the likely changes are a positive step in that direction.

Thanks

There are many volunteer co-ordinators who contribute to the activities of the WIA on behalf of the Executive. On behalf of all members of the WIA, I would like to thank the following people for their efforts:
Graham Ratcliff, VK5AGR Amsat

John Kelleher, VK3DP Awards Manager
 Neil Penfold, VK6NE Contest Manager
 and QSL Manager (VK9, VK0)
 Brenda Edmonds, VK3KT Education
 Hans Ruckert, VK2AOU EMC
 John Edmonds, VK3AFU Historian
 Gordon Loveday, VK4KAL Intruder
 Watch
 Ash Nallawalla, VK3CIT International
 Travel Host Exchange
 John Martin, VK3JIC FTAC
 Bill Roper, VK3ARZ and
 Ron Fisher, VK3OM Tapes (Federal
 News)
 John Ingham, VK5KG Tapes (Video)
 Leigh Baker, VK3TP WICEN

During the year Phil Hardstaff stepped down as Awards Manager and John Kelleher has now taken over this position.

This is my fourth (and final) report as your Federal President. It has been a privilege for me to serve the world's first and oldest National Radio Society in this capacity. During that time there has been a number of significant changes in the WIA. The first of these was the appointment of a very skilled General Manager and Secretary, who has revitalised the Executive Office and set the WIA on a very firm financial foundation. The second was the involvement of the Divisions more closely in the day to day running of the WIA by having representatives of each Division on the Federal Executive. While this was not necessarily the most desirable approach, it was one that was easily implemented within the present structure and has facilitated much closer contact between the Divisions and the Federal organisation, as well as between the Divisions themselves. This has considerably strengthened the management of our hobby.

Whether we like it or not, the process of change is part of our hobby, be it in the techniques or components we use to communicate with our many far flung

colleagues or in the process of regulation imposed on us by external authorities. I believe that as a result of the decisions made by the Federal Council and the Executive, the WIA has coped well with the changes of the past few years. We are also well prepared to face the changes that will come during the next few years. I would like to wish the incoming Federal President and Executive every success as they build on the work that has been carried out by their many predecessors over the last eighty one years.

I would like to thank the members of the Executive, particularly Ron Henderson, and the Office Staff, especially Bill Roper, for their support and encouragement over the past four years.

**Peter Gamble, VK3YRP
 Federal President**

ANNUAL FEDERAL FINANCIAL REPORT FOR 1991

For yet another year the General Manager acted in the dual role of WIA accountant and Treasurer.

As a non-profit organisation, the WIA should always budget for an excess of income over expenditure of about 5% of income. Expenditure for fixed assets (equipment, etc.) can only be made from Accumulated Profits.

The 1991 budget, prepared by the General Manager, and accepted by the Federal Council and Executive, budgeted for a surplus of income over expenditure of \$20,965, or 5.1% of budgeted income.

Despite events occurring during the year, which were not anticipated in the budget (such as the devolvement of the amateur examinations from the DoTC to the WIA, and the Australia wide financial recession), the result was a surplus of income over expenditure of \$20,751. This shortfall from budget of \$214 was a variation from budget of 1%.

Some of the more significant aspects of the audited 1992 financial statements include the following:

Amateur Radio Advertising. a major source of income, was \$6,836 over budget, which speaks well for the perception by advertisers of Amateur Radio magazine as an advertising vehicle. No help was received from Divisions in obtaining advertising for Amateur Radio magazine.

Call Book. the 1992 edition, sold very well when it was published at the end of September. After allowing for Salaries & Secretarial costs, and office overheads, the Call Book returned a profit of \$5,848 for the year.

Examinations, an unbudgeted item,

were costly to set up (\$8,300 from expenses and \$3,350 from accumulated funds for equipment) and, according to usual small business practice, those costs will take about three years to recoup. The highest cost component of WIA Exam Service is salaries and these are included with **Salaries and Secretarial**.

Interest Received, was \$5,127 under budget because of the dramatic and unexpected fall in interest rates during 1991.

Members Subscriptions income was \$17,977 higher than expected because the decrease in members for the year was 322 less than anticipated.

The over-budget expenses involved in the publication and distribution of Amateur Radio magazine such as **Bulk Posts, Typesetting and Wrapping & Addressing** were more than offset by the savings in **Printing costs.** These savings resulted from a new printing arrangement negotiated by the General Manager.

The Amateur Radio magazine result for the year was \$2,301 (or 1.3%) better than budget, and the net cost per copy of the magazine posted to members was \$2.39.

Convention Expenses were \$3,678 under budget mainly because of the substantial drop in air fares.

Salaries & Secretarial costs were \$22,317 over budget. The reasons included award salary increases early in the year, \$6,385 for the additional, unbudgeted work involved with setting up the examinations, and \$7,227 for weekend work by the General Manager (three weekends in every four throughout the year were spent by the General Manager working in the Executive Office mainly because of the increasing devolution of tasks to the Executive Office that were previously and historically carried out by volunteers).

Despite the capital expenditure during the year with renovation of the office, and setting up WIA Exam Service, **Accumulated Reserves** totalled \$76,264 at the end of the year.

After expenditure of \$28,016 for the Geneva CCIR conference, the NZART conference, the IARU Region 3 conference in Bandung, and preparation costs for WARC 92, the **International Representation** account retained a balance of \$19,300.

The table following shows the Profit and Loss budget and actual for 1991.

If any member has any queries about the finances of the Federal body of the WIA, please address them in the first instance to the Federal Councillor of your local WIA state Division.

**Bill Roper, VK3ARZ,
 General Manager & Secretary**

**Help protect our
 frequencies
 become an
 intruder
 watcher today.**

PROFIT AND LOSS BUDGET AND ACTUAL AMOUNTS FOR 1991

INCOME	BUDGET	ACTUAL	VARIATION	
			Amount	%
ADVERTISING (incl. HAMADS) - AR	39024	45860	6836	17.5
CALL BOOK	32000	32412	412	1.3
DONATIONS	250	0	-250	-100.0
EXAMINATIONS INCOME	0	5619	5619	0.0
INSERTS - AR	400	603	203	50.6
INTEREST RECEIVED	22500	17373	-5127	-22.8
INTERNATIONAL DONATIONS/LEAVES	12332	19060	6728	54.6
MAGPUBS	3800	2943	-857	-22.6
MEMBERS SUBSCRIPTIONS	267500	305477	17977	6.3
SUBSCRIPTIONS (C/SEAS DIRECT) - AR	7000	5473	-1527	-21.8
SUNDRY INCOME	2000	2859	859	42.9
TEAC FEE INCOME	2400	4676	2276	94.8
TOTAL - INCOME	408208	442353	33147	8.1
LESS EXPENDITURE				
AMSAT	1500	2072	-572	-38.1
AUDIT FEE	2600	3306	-708	-27.2
AWARDS - AR	500	504	-4	-0.7
AWARDS & SPECIAL PROJECTS	750	353	397	52.9
BAD DEBTS WRITTEN OFF	500	0	500	100.0
BANK CHARGES	2700	2204	496	18.4
BULK POSTS - AR	35887	36955	-3058	-8.5
CALL BOOK EXPENSES	12000	12928	-928	-7.7
COMMITTEE/COORDINATOR EXPENSES	1000	2644	-1644	-164.4
CONVENTION EXPENSES	22000	18322	3678	16.7
D-OTC LIAISON	0	1227	-1227	0.0
DEPRECIATION	6802	6907	-105	-1.5
DRAFTING - AR	1000	490	510	51.0
ELECTRICITY	1500	1610	-110	-7.3
EXAMINATIONS EXPENSES	0	3388	-3388	0.0
GENERAL EXPENSES/SUNDRIES	1000	2010	-1010	-101.0
I.A.R.U. DUES	4900	4488	412	8.4
INSURANCE/WORKCARE LEVY	4365	5253	-888	-20.3
INTERNATIONAL REPRESENT'N PROVISION	12332	19060	-6728	-54.6
MAGPUBS EXPENSES	2800	3943	-1143	-40.8
POSTAGES & FREIGHT	10000	9987	13	0.1
PRINTING - AR	68000	59702	8298	12.2
PRINTING/STATIONERY/OFFICE SUPPLIES	9000	10413	-1413	-15.7
PROMOTION/ADVERTISING/RECRUITING	9600	5582	4018	41.9
RENT & CLEANING	9095	9664	-569	-6.3
REPAIRS & MAINTENANCE (OFFICE)	2000	4180	-2180	-109.0
SALARIES & SECRETARIAL	126000	148317	-22317	-17.7
TEAC EXPENSES	1150	2320	-1170	-101.7
TELEPHONE	3200	3918	-718	-22.4
TRAVEL (EXECUTIVE)	2000	874	1326	66.3
TRAVEL (OFFICE)	850	966	-116	-13.6
TYPESETTING - AR	24500	25354	-854	-3.5
WRAPPING & ADDRESSING - AR	8700	10860	-2160	-24.8
TOTAL - EXPENSES	388241	421602	-33362	-8.6
SURPLUS/DEFICIT	20965	20751	-214	-1.0

ANNUAL REPORT OF THE PUBLICATIONS COMMITTEE FOR 1991

The main theme of this report for the year 1990 was that after a number of rather traumatic changes in 1989, 1990 had been a year of relatively calm progress. This trend continued through 1991 and in most respects the production of *Amateur Radio* (and the Call Book) has been carried out in a smooth and efficient manner. As Chairman, I hasten to point

out that, while the Committee has made its contribution to this happy state of affairs, a major part of the credit is due specifically to the firm financial direction of the General Manager and the detailed overall competence of the Managing Editor. While my own position of Executive Editor is no sinecure, the pressure is really on for only a few days each month and it is comforting to know the magazine is in good hands for the rest of the time.

As suggested last year, some attempt is being made to plan in advance the mixture of material in each issue, but progress towards a fully planned magazine is very slow. So long as the supply of material from volunteer authors continues to be adequate, there is little need to do more than mix the ingredients in the proportions supplied. One notable exception was in recognition of the 100th birthday of Harry Angel VK4HA in December. We were told in advance by a VK2 of the forthcoming event, and were thus able to commission suggested VK4s and eventually the VK4 Division to provide the relevant article and photographs. Incidentally, no-one has yet submitted a competing claim to being the oldest active amateur in the world! Many thanks to all concerned for rallying to the cause.

Financially, the performance of AR over the calendar year was very close to budget, and the General Manager deserves congratulations for the accuracy of his predictions. Income, mainly from advertising, was just under \$52,000 which was about \$5,500 above budget. Expenditure totalled \$233,000 (\$3,000 above budget) of which the largest single component was salaries and office costs at \$102,000. Membership fees contributed \$183,000 and the cost per copy mailed to each member was \$2.39 versus the budget figure of \$2.38.

Some progress is being made towards the concept of a magazine produced entirely "in-house" (except for the printing) by a full-time salaried editor-producer. This is seen as the only viable alternative to the present semi-volunteer situation, which cannot continue indefinitely. The cost, however, will unavoidably be higher than at present by at least \$10,000 per annum.

There has been no change this year in the membership of the Publications Committee, which comprises (in alphabetical order):

Norm Eyres	VK3ZEP
Ron Fisher	VK3OM
Peter Gibson	VK3AZL
Evan Jarman	VK3ANI
Bruce Kendall	VK3WL
Bill Rice	VK3ABP
Gil Sones	VK3AUI
Bob Tait	VK3UI

As paid employees, Graham Thornton VK3IY, Bill Roper VK3ARZ and Brenda Edmonds VK3KST are not Committee members, but do of course actually perform most of the magazine work (production, advertising, business management, etc). Others who contribute, but are too many to name, are the four technical editors who operate from VK4 and VK6, a group of about four volunteers who carry out each month's

proof-reading, and of course all the regular columnists and contributors. Then there are the other staff in the Executive Office and the staff at the typesetters (Magazine Graphics). The printers (Industrial Printing & Publicity) and mailing house (RL Polk & Co) must also be mentioned. To all of you, our gratitude for another year's work well done!

Bill Rice VK3ABP
Executive Editor

ANNUAL REPORT OF FEDERAL TECHNICAL ADVISORY COMMITTEE FOR 1991

COMMUNICATION: Communication between FTAC and Divisional Technical Advisory Committees has continued to work effectively, thanks to the TAC representatives in each Division.

RECORDS: A large number of record claims were processed, and the "Certificates of Achievement" for record holders have resulted in improved goodwill towards the WIA, both within and outside Australia.

BEACONS: The 50 MHz beacon policy has been revised to provide extra beacon frequencies for the eastern states, and it is now up to those Divisions to move beacons into the 50 MHz segment. The IARU deadline for the 10 metre beacon changeover has been extended to January 1993. It is a matter for concern that many VHF/UHF beacons around the country are still inoperative.

DEREGULATION: A major activity this year has been the submissions relating to deregulation of licence conditions, especially regarding identification and repeater linking. Thanks to the new approach adopted by DoTC, these submissions are expected to bear fruit in the near future.

AMATEUR ALLOCATIONS: No progress has been made in securing spectrum space to replace the 576 MHz band. Approaches have been made to DoTC concerning the radiation of TV sound modulation within exclusive amateur bands.

RECOMMENDATIONS:

1. That Divisions give attention to 50 MHz beacon allocations, and also to getting inoperative beacons back on the air.

2. That after the outcome of WARC '92 is known, Executive actively seek the establishment of exclusive amateur segments at each band above 144 MHz.

THANKS: Again I wish to thank all FTAC panel members and the staff of the Federal Executive office for their assistance. I have been dogged by illness in the last year and this help has been invaluable. I am hopeful that my situ-

ation will continue to improve during the coming year.

John Martin, VK3ZJC
Chairman, FTAC

ANNUAL REPORT OF ROSS HULL VHF - UHF CONTEST MANAGER FOR 1991

The band multipliers were changed for 1991-1992 to overcome the scoring advantage of the 6 metre band. This resulted in fewer 6 metre logs, but this was offset by increased activity and a greater number of logs on higher bands. Nevertheless increased interest was shown by overseas 6 metre stations. Comments from entrants indicate general satisfaction with the existing rules, and no significant changes were suggested. Activity was again concentrated in the first half of the contest but no-one suggested any further shortening of the contest. The abuse of calling frequencies on 2 metres and above was worse than in 1990-1991, in spite of my requests to the contrary. This practice of "hogging" has now become normal for many stations throughout the year. This problem is basically one of poor operating habits and the contest itself is not responsible. However thought is being given to ways in which the rules could be changed to discourage or penalise selfish operating habits. The only other changes planned for next year are minor and relate to bringing the contest exchanges for the Ross Hull Contest and the VHF-UHF Field Day into line.

John Martin, VK3ZJC
Ross Hull VHF-UHF
Contest Manager

ANNUAL REPORT OF THE VHF - UHF FIELD DAY MANAGER FOR 1991

The Field Day was better supported this year than in 1991, largely due to the change of date from the Australia Day weekend to a mid-January date. Band multipliers were brought into line with those used for the Ross Hull Contest, and this change was also approved. Suggested improvements for 1993 include a one-day section for those who cannot stay out overnight, combined with a possible later finish on the Sunday. A number of entrants commented on the different exchanges for the Field Day and the Ross Hull Contest, and these will be brought into line next year. Very few operators have shown any interest in the Maidenhead locator system. One is driven to the conclusion that it is not an appropriate

basis for contest scoring in a country like Australia where the active amateur population is widely and thinly distributed. Therefore thought is being given to dropping the locator system and adopting the same distance-based scoring as used in the Ross Hull Contest. I am reluctant to make too many rule changes too often but feel that these changes would be an improvement and stimulate more activity.

John Martin, VK3ZJC
Manager, VHF - UHF Field Day

ANNUAL REPORT OF FEDERAL INTRUDER WATCH CO-ORDINATOR FOR 1991

This year just past was no different to other years as far as the number of intruders into the recognised amateur bands. We saw a decrease in positive monitoring of the DoTC. No indication of whether the proposed upgraded monitoring equipment ever became a reality. Nor did the service, as far as Australia is concerned, get any satisfactory evidence that even some of the reported intrusions have been followed up at inter-government level.

No intruders have been "removed" from our legal frequencies. I have had neither direct or indirect feedback on any of the programs suggested by the DoTC to assist their monitoring, eg. number of times certain intruders were logged, or the time they occupied the frequency as recorded by the observer.

At a state level, it has been on the whole disappointing. VKs 1,3 & 5 have no co-ordinators, despite efforts to obtain them.

We have NO observers in VK3. In VK5 the oldtimers post direct to me, which is appreciated. VK4 still leads the way in observers and log sheets.

Owing to the resignation of Bill Martin VK2COP as the IARU Region 3 Co-ordinator, we now have Rohan ZL1CVK in the "chair". I am looking forward to working with him, and will assist where possible in reducing the intrusions in Region 3. I think it is a good omen that ZL has now taken over. The new broom again. We in VK have had a good run of Region 3 co-ordinators and must not be greedy.

More work now the USSR is no more, in sorting out all the states.

An interesting observation over the years I have been co-ordinator with Intruder Watch. Our "modes" tape does not appear to be working to the best advantage with our new recruits to the monitoring service. It does not assist them - I believe it scares them. I have discussed this with other co-ordinators and they are of the same opinion. Take a new

observer. He asks for a tape, and when he/she plays it, it scares them. All those "noises", guard carriers, duplex and quadplex carriers, and all to be remembered if possible for a quick identification. No wonder my recruit rate is about 1%.

If we want to get new blood into the service we must upgrade our tape to an interesting, informative one where they can be guided into these modes. Graham VK6RO is going to put his thoughts on to tape for me with some examples. I find that, even after 15 years as an observer, I still have to refer to the tape. Easy if one is set up for it.

Gordon Loveday VK4KAL
Federal Intruder Watch
Co-ordinator

ANNUAL REPORT OF EDUCATION CO-ORDINATOR FOR 1991

This has been another very busy year, although the emphasis has changed from that in other years. I have received far fewer requests for information direct from the public and potential examinees, and have had to supply only a few Morse code tapes and sample theory examination papers. I have attended several local and interstate Conventions, and some club meetings. I have continued the monthly "Education Notes" in Amateur Radio magazine.

The major event of 1991 which affected Education was the change in the examinations devolvement from free access by any interested parties to the assumption of total control of the administration of examinations by the WIA. DoTC, having found the original devolved system unmanageable, and being unable to allocate sufficient resources to improve the viability and integrity of the system, proposed in July that the WIA should assume responsibility for the production of all examination materials and their supply to persons desiring to conduct examinations. After extensive consultation between DoTC and the WIA, the present system was devised by the General Manager, and the amateur population advised of the changes.

As Education Co-ordinator I was able to assist in some of the planning and discussion of the new system in the early stages. I proofread the stockpile of examination question papers before their submission to DoTC for approval and prepared segments of prose for use in the CW examinations. I also assisted with the publicity and explanations about the new system, and responded to a number of letters which offered either criticism or

useful suggestions. Many of the critical letters were based on inaccurate information. In most cases the writers reacted favourably to a straight-forward explanation of the matters or procedures with which they had expressed concern.

Another development in which I have assisted is the formation of a question bank Sub-Committee, whose tasks will be to review and extend the existing theory and regulations question banks. All banks are at present too small, leading to considerable repetition of questions from paper to paper. In addition, there are a number of questions which are badly worded, or not on the syllabus. This sub-committee will view all proposed additions to the banks before they are submitted to DoTC for final approval.

A highlight of the year was my trip to the NZART annual conference in late May 1991. This gave me the chance to talk to a number of amateurs involved in education and examinations. This was especially interesting as at that stage NZART had only recently become responsible for administering the theory and regulations sections of their examinations. It appears that the NZART is much more active in the schools than is the WIA. Considerable work has gone into production of materials for use in schools, and annual awards are made to young members.

Future. The major task at this stage is the review and extension of the examination question banks. This will be an on-going task, as inevitably some questions will become "dated" and need to be replaced. With the move towards further deregulation of the Amateur Service, the Regulations bank in particular will have to be edited, and extra questions added on the regulations that remain. It may be that we can extend the Regulations examination to include questions on operating etiquette and traditional procedures as well as those questions which relate specifically to matters in the Radio Regulations.

I have already stated that it is time for a review of both AOCP and NAOCP syllabuses. This can be done to some extent in conjunction with the review of the question banks, as members of the Sub-Committee will be able to advise if questions on some topics should be deleted. However, questions not on the existing syllabuses cannot be added until it is agreed with DoTC that those topics be included.

There is still a pressing need for the exchange of information between those involved in education of potential amateurs. Those who commit themselves to running courses or classes frequently find that they must "re-invent the wheel" as

Divisions do not have records of resource material prepared by previous lecturers. I appeal to those who do run classes to provide their Divisions with an outline of their course structure and with information about their classes so that inquirers, who are of course potential members, can be assisted in their search for instruction.

There is also an urgent need for more resources to be made available to candidates in remote areas. We now have an excellent system to help these people sit for examinations, but few ways of helping them to gain the necessary knowledge in order to contest the examinations.

In conclusion, I thank those who have assisted with tasks on request, responded to my queries, or provided information or resources to make my job easier.

Brenda M Edmonds, VK5KT
Federal Education Co-ordinator

ANNUAL REPORT OF FEDERAL VIDEO CO- ORDINATOR FOR 1991.

This past year has been an extraordinarily busy year for me personally, but unfortunately not for the Video Library! While I am sure that it is still a valuable resource particularly for country Radio Clubs, the collection is gradually aging and becoming increasingly out of date.

I stated in my report last year that I was willing to continue indefinitely as the WIA Video-Tape Co-ordinator, but to be frank, what is really needed now is someone with the time and energy either to produce new lectures or to organise those willing to do so.

Rather than let the Service slowly become less relevant to today's Radio Amateur, I honestly think that I should step down now because in the present circumstances I am unable to give the time and energy which the position demands.

Anyone contemplating the job must have access to a VHS VCR because almost all requests nowadays are for the VHS format. Most of the video masters are 3/4" U-matic video cassettes which are played on the Institute's almost-new Sony VP-5040 player; most of the remainder (lectures produced by others) are sub-mastered on Betamax tapes which are played by the Institute's Sanyo VTC-M10 recorder.

Finally, although this report is intended to cover the calendar 1991 year, I should point out that in the February issue of "Amateur Radio" magazine in which the Video Title listing has traditionally been published, this year's listing unfortunately did not include as usual

instructions on how the service works. So as to avoid confusion, please note that this information was published in the March edition of "AR". It is to be hoped that next year the listing will be published free of error.

John F Ingham VK5KG
Federal Videotape Co-ordinator

ANNUAL REPORT OF THE GENERAL MANAGER & SECRETARY FOR 1991

The Executive Office, apart from providing administrative and secretarial facilities for the Federal Council and the Executive, exists mainly as a secretariat for the WIA state Divisions to provide those member services, such as Amateur Radio magazine, Call Book, Customs certification, DoTC Liaison, examinations, membership database and fee processing, etc., which can be carried out more efficiently on behalf of the Divisions by a centralised office.

1991 was another year of continued development and further computerisation of administrative procedures so that the Executive Office could run more efficiently and effectively.

The first major achievement for the year was the installation of a five station computer LAN. Many difficulties were experienced, and it was several months before the last of the "bugs" was eradicated from the system. Several problems even defeated the computer professionals. This network, combined with over 25 new computer programs written and developed in the Executive Office during the year, and further on-the-job training of staff, helped to increase the efficiency of operations by an estimated 40% over the course of the year.

Another major achievement was the renovation and expansion of the office facilities. The WIA had leased the present office space for over 10 years but, for a variety of reasons, it was considered no longer of sufficient size or condition. After exploring the viable options a new lease arrangement was made for the present office which was expanded into an additional area thereby enabling the setting up of a conference room for Executive and Federal Council meetings. The office was then completely repainted, and additional office furniture purchased. In addition, the fax machine was given a dedicated telephone line, and a seven station, two line Commander telephone system was installed.

Another significant achievement during the year was the change in liaison procedures with the DoTC in Canberra

which brought about a vastly improved relationship and results. Formal quarterly joint meetings between the WIA and the DoTC, where members of the Executive met and negotiated with representatives from the DoTC, were replaced with direct, informal negotiations between the General Manager and DoTC department heads, conducted as the need arose.

Arguably the largest and most difficult task ever taken on by the Executive occurred during 1991. Examinations.

From the time of the surprise decision by the DoTC to devolve examination administration to the WIA, the Executive Office had less than four months to design a system, compile the instruction manual, design over 30 forms, write over 20 computer programs, and prepare an examination paper bank. The General Manager worked 100 plus hour, seven day, weeks for that four month period and, with the help of a small group of dedicated people, WIA Exam Service commenced operation on 1st October 1991.

The enormous workload in setting up examinations was further increased by the large number of queries (many quite illogical and uninformed, some quite abusive) received by letter, fax and telephone.

Some of the other major achievements during 1992 included:-

Preparation of staff instruction manuals for all new computer operations;

Improved comprehensive analysis of membership trends;

Substantial development of recruiting "leads" information; and

Publication of the 1992 Call Book.

Due to further development of accounting programs, enabling more detailed analyses of the cost effectiveness of individual tasks, the costs of operation of the Executive Office were kept as low as possible. Despite the abovementioned major projects, the surplus of income over expenditure for the Federal Body was only \$214, or 1.0%, below budget.

Office staffing has now stabilised, and the present team are enthusiastic and competent.

The staff currently consists of:-

Full time paid employees

General Manager

Bill Roper VK3ARZ 75 hours pw

Part time paid employees

Office Manager

Brenda Edmonds VK3KT

20.5 hrs pw

Book Keeper

June Fox 25 hrs pw

Membership & Exams

Chris Russell VK3LCR

30 hrs pw
Membership
Margaret Allen 18 hrs pw
Contractors
Managing Editor
Graham Thornton
VK3IY 19.5 hrs pw
Membership computer
Earl Russell VK3BER
3 hrs pw maintenance

Volunteer workers

Librarian

Ron Fisher VK3OM 4 hrs pw

Bill Roper, VK3ARZ,
General Manager & Secretary

ANNUAL REPORT OF FEDERAL EMC (ELECTRO MAGNETIC COMPATIBILITY) CO- ORDINATOR FOR 1991

1) Reports were sent to the Editor and published in "AR";
January 1991, June 1991, November 1991. More than 70 EMC reports have been published during the last 10 years, by VK3QQ, VK2AOU and other contributors.

2) Correspondence on EMC Matters:
2.1) NZART EMC group list of VK-EMC-Reports was sent to ZL2CA
2.2) Interesting EMC cases reported by: VK4AFA and VK4OE
2.3) summary EMC Report prepared for the benefit of VK Amateurs, who did not (as recommended) keep past "AR" EMC Reports, which can be helpful if an EMC problem was experienced.
2.4) Comment on EMC Document: 92.003-WR., 8-1-1992. Sent to Executive of WIA.

3) EMC Information received from: "QST", "CQ-DL", "Radio Communication" (via Norm Burton) and DL1BU.

4) The development of EEC EMC Standards is watched with great interest and concern by radio amateurs world wide. The EMC specialists in the DARC are collecting statements by the German Telecom (Ministry of Communication).

Hans F Ruckert, VK2AOU
Federal EMC Co-ordinator

**Amateur radio Helping
the community.**

REPORT OF FEDERAL COORDINATOR INTERNATIONAL TRAVEL HOST EXCHANGE FOR THE YEAR ENDING 31 DECEMBER 1991

The International Travel Host Exchange (ITHE) is a voluntary scheme administered by the American Radio Relay League (ARRL) wherein interested radio amateurs are able to meet or host fellow operators from other countries. This is a free service, which is promoted by the WIA to its members. You do not have to be on the list to contact those on it.

During 1991 the number of enquiries handled by this office tripled to six; two by Australians intending to travel overseas, and four by potential visitors. There have been a few other direct contacts between participants.

The total Australian membership is 23 couples or individuals and we need some more names. Please contact the undersigned for more details.

Ash Nallawalla, ZLALM/VK3CTT
Federal ITHE Co-ordinator
PO Box 539,
Werribee, VIC 3030
(03) 741-9302 AH; (03) 742-4566
Fax

ANNUAL REPORT FROM FEDERAL TAPE CO-ORDINATORS FOR 1991

The practice of providing Federal News on a recorded tape for weekly Divisional news broadcasts, completed 16 years of operation during 1991.

Preparation of the news scripts for a two, seven minute news segments tape averages five man-hours. All news scripts are prepared by Bill Roper VK3ARZ, with the assistance of Brenda Edmonds VK3KT. The recording of the news segments on to the master tape takes about another man-hour, a task shared between Bill Roper and Ron Fisher VK3OM. The duplication of the tapes and dispatch to each of the seven Divisions takes another two man-hours, tasks carried out by Ron Fisher, and June Fox from the Executive Office staff.

All of us involved with the production of the Federal Tapes would like to thank those volunteer Divisional broadcast announcers and engineers who so ably assisted during 1991 in broadcasting the news from the Executive Office to WIA members.

Bill Roper VK3ARZ,
General Manager & Secretary

Battle of Coral Sea Commemoration VI4BCS Townsville, Australia

ROGER CORDUKES VK4CD, PO Box 964, TOWNSVILLE 4810

The Battle of the Coral Sea is considered by historians to be one of the most significant battles of World War Two and a landmark in the history of Australia.

In May, 1992 the national commemoration of the 50th Anniversary of the Battle of the Coral Sea will be celebrated in Townsville. It will be 50 years since Americans and Australians fought against the Japanese in the Coral Sea about 1200km off the north coast of Queensland.

The Townsville Amateur Radio Club (VK4WIT) has been invited by 'Coral Sea '92' to be a part of these celebrations. During 1-13 May, a special event call-sign, VI4BCS (Victor India Four Battle Coral Sea), will be activated from the Club's premises at Green St, West End, Townsville. A special QSL card will be available for all QSOs to VI4BCS during the commemorations.

The Battle of the Coral Sea began on 4 May and concluded on 8 May 1942. It was the closest approach of hostile forces in strength to the Australian Coast during World War II. The Battle was fought both in the air and on the sea. The Allied forces contained 26 ships against 62 Japanese ships. Both sides suffered heavy casualties, with over 4000 United States servicemen killed.

The Battle of the Coral Sea Celebrations have been organized by Coral Sea '92, a committee led by Mr Graham Jenkinson in Townsville. The celebrations include a troop train from Brisbane bringing 300 ex-servicemen and women to Townsville, the arrival of four United States Navy ships and three Australian Navy ships on 8 May for the unveiling of

the \$100,000 Coral Sea memorial in Anzac Park, the largest gathering of ex-servicemen and women from both Australia and United States since World War II.

Visiting ex-servicemen and women may care to inspect the Townsville Amateur Radio Club's premises during their visit to Townsville.

Our Club meets on the first Tuesday of the month at 7.30pm, that is Tuesday 5 May. Please phone Bob Mann VK4WJ on (077) 79 7865 or Roger Cordukes VK4CD on (077) 74 0221. Or write to TARC Inc PO Box 964, Townsville, 4810 Australia. Packet address:

VK4WIT@VK4AFS#NQ.QLD.AUS.OC.
The Townsville Amateur Radio Club looks forward to welcoming all visitors to Townsville during the celebrations and hopes to contact many amateurs during this special occasion. TARC operates nets:

Sundays
28.365 MHz 0830 local time
146.700 MHz via VK4RAT
0900 local time
3.605 MHz 1930 local time

Repeaters
VK4RAT 146.700 438.225

Meetings: First Tuesday of the month, 1930 local time, Green St West End (monthly meeting). Third Tuesday of the month, 1930 local time (social meeting).

VI4BCS frequencies (1-13 May)
3.605 MHz
7.080 MHz
14.190 MHz
21.190 MHz
28.365 MHz

AR



Newly delivered B24 Liberator bombers of the USAF line up at Garbutt Air Base, Townsville, some time between 1942 and 1945. (Courtesy Arch Fraley Collection)

TET-Emtron

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F/B Ratio	21, 15, 16 dB
Power	2 kW PEP
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FREQUENCY	14, 21, 28MHz
ELEMENT LENGTH	5.0m
BOOM LENGTH	2.0m
GAIN	4.5/6.5 dB
FRONT TO BACK RATIO	12, 20 dB
FEED IMPEDANCE	50 ohm
TURNING RADIUS	2.74m
WIND SURFACE	0.25m
WEIGHT	9.1kg
VSWR	21, 28MHz less than 1.5:1 across band
	14MHz 160 kHz less than 1.5:1
	250 kHz less than 2.0:1

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Parramatta
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(02) 887 2211

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Fax: (03) 678 9671

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Fax: (07) 394 4316

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330 Albany Highway,
Western Perth WA 6100
Ph: (09) 478 1116
Fax: (09) 472 3785

Voices Out of the Air

BOB HAWKESLEY VK2GRY (XK-G3GBP), 21 WALLUMATTA RD, NEWPORT 2106

(ARTICLE ORIGINALLY INTENDED FOR ABC BROADCAST USE)

JUST ON 60 YEARS AGO there occurred an event that stunned the world - a 251-word message broadcast by King George V to the British Empire on Christmas Day 1932. Here's part of what he said, by courtesy of ABC Sound Archives.

I speak now from my home and from my heart to you all, to men and women so cut off by snows, the desert or the sea, that only voices out of the air can reach them.

Why did that broadcast make such an impact? Quite simply, it demonstrated that one person could speak to all mankind at the one time and, in this instance, the King spoke to a good quarter of it. Technically it was a tremendous achievement. It was done live and broadcast simultaneously on long, medium and short waves - about which I'll have more to say later.

But how was this possible when wireless as a discipline was scarcely 30 years old? The inventors of wireless, Hertz and Marconi among others, showed the way, but the actual ways were trod by the hundreds of thousands of experimenters the world over, wireless enthusiasts, radio amateurs or hams as they are colloquially known.

While most hams exhibit a great diversity of interests, they are all seemingly propelled by one common factor: a hearty disregard for the opinions of experts who say that something can't be done. I'll give you a classic example, but first I should explain something about long, medium and short waves which I mentioned a few moments ago.

When broadcasting first began, programs were transmitted on long and medium waves by what today are called the AM stations on our radios (AM means amplitude modulation, which is a technical description of how the sound is carried by the radio wave).

And on some radios you may also have seen the letters SW, which stand for short wave, and it's on the short waves that we get programs from all over the world.

Now in 1920 it was the expert view that short waves would never be any good for broadcasting because they didn't appear to go very far. Logic was on the side of the experts because long-wave stations were heard at distances of many hundreds of kilometres, while medium wave stations could be heard at a hundred or so kilometres. But short waves could be heard for only a few kilometres and

then they fizzled out. So the expert view was that they weren't any good for broadcasting.

But a ham in England didn't agree because of something rather odd happening in Scotland - the Scottish could hear the London medium-wave programs and Scotland is all of 500 kilometres away from London - almost five times the distance one could normally expect to hear a medium-wave station. The same thing happens today and, in Sydney, for example when, in the evening or early morning, it's not uncommon to hear stations which are in Victoria or Queensland. Why? The short answer is that about 100 kilometres or so up in the sky the atmosphere reflects the waves and so they bounce back to earth. But in the early 1920s this wasn't known.

The experts said that the phenomenon was due to freak conditions, which is what all experts say when they don't know. But the ham simply refused to accept this and he formed the notion that the medium waves might bounce along rather like a tennis ball because there simply had to be a logical explanation for Scottish listeners hearing London medium-wave programs. And if medium waves bounced, then why not short waves? So he decided upon a bold experiment.

He designed and built a short-wave transmitter and receiver (for the technically minded its nominal wavelength was 30 metres) and he organised a fellow ham in Malta to do the same. (Malta is 2000 kilometres from England). A time was fixed for a radio appointment (called a schedule or 'sked' in ham language) and, as the minute hand closed upon the appointed hour, there came out of the ether a call...

The Malta station replied immediately, and all evening the two hams chatted in morse across the 2000 kilometres. They had achieved what the experts had said was impossible...

And, just to conclude this story, in no time fellow RAF hams in Cairo, Bombay, Singapore and Hong Kong were all chatting to each other, and then the Admiralty and the Air Ministry were given a demonstration which, for once, convinced them on the spot that short waves could be used to communicate with fleets and squadrons anywhere in the world. And so, once again, the military found a use for an innocent pastime but, not to be

outdone, the hams found other wavelengths

That was 70 years ago and today hams straddle the world. But there are not only radio hams, but hosts of other types of ham in all sorts of disciplines such as archaeology, biology, botany, chemistry, computer science (you've heard of hackers - they're simply computer hams) - the list is endless.

Which brings me to a closing thought, that mankind has only to think of something for it to become a possibility, because somehow human beings yearn to learn and experiment. It's the science fiction writers who more often than not point the way, but it's the hams who tread it. And for hams there is always a reward - that of capturing voices out of the air.

Which brings me back to that royal broadcast nearly 60 years ago on Christmas Day, 1932. That broadcast has gone into history and, through the wonderful medium of wireless, into the vastness of space

Perhaps, somewhere, billions of kilometres away, some other being is at this very moment detecting that broadcast with the same degree of excitement that gripped its first listeners. And I am willing to bet that whatever that being is, whether it is a he, a she or an it, he or it is most certainly a ham. **ar**

Sign up a new

WIA member

today -

we need the

numbers to

protect

our frequencies

at WARC 92.

An Aussie in Los Angeles

RICK RICARDO VK1ALR, 2 PLUNKETT ST, CHIPLEY, ACT 2606

ON 29 MARCH I LEFT Australia to spend five months in the US at the Jet Propulsion Laboratory, (part of the NASA network). I lived in an apartment in South Pasadena, California, near Los Angeles. My reason for travel was to assist in the testing, and later, back home, the installation of new upgraded computers and ancillary hardware at the Tracking Station at Tidbinbilla, near Canberra. This would include also the training of staff. All this would carry on the support of both Deep Space and Earth Orbiting probes.

I would like to share with fellow hams in Australia my experiences since gaining my full licence and then travelling to the US.

Prior to departing Australia I inquired of the DoTC as to the procedures to be followed to obtain my reciprocal licence. I was disappointed that they were unable to help me in any way.

Once I arrived in the US and started work I contacted the JPL Amateur Radio Club. After speaking to several people I eventually contacted Jay K6EJ, who happens to be the International Affairs Vice President of the ARRL. He assisted with the necessary form 106B from the FCC to apply for my reciprocal licence.

I was a little disturbed when I read on the form that it could take up to 60 days to receive a licence.

When you realize that the FCC has to administer to 500,000 hams alone you can understand why it can take so long.

Along with my application I had to send a copy of my certificate and licence. I had taken both with me in anticipation, and was glad that I had. Having filled in the form and obtained copies of the previously mentioned forms I posted my application off to the FCC at Federal Communications Commission, PO Box 1020, Gettysburg, PA 17326, USA.

The ham operator in the US does not pay a licence fee for the privilege. The licence is currently issued for 10 years. There are moves to introduce a fee of some sort (see *QST Magazine* April 1991) with some advocating perhaps up to \$10 per year for 10 years. A far cry from the equivalent fee we currently pay and will have to pay over the next 10 years.

While I waited patiently for the re-

turn, hopefully, of a licence, I completed an application to join the ARRL, and also an application for membership of the JPL ARC, W6VIO (with a key to the shack as a benefit).

What a setup the JPL Amateur Club has! A transportable building fully rigged up. Three VHF rigs with PCXTs on packet or satellite, a repeater on 1.25 metres, a Kenwood TS-820S for slow scan TV, a Yaesu FT-101EE and two other HF rigs. In addition, a shipping container sits beside the shack full of other gear, spare antennas for Field Days etc.

To connect an array of transceivers and listen to the world was a patch panel which had VHF, UHF and HF beams appearing on it. The HF beams, a TH-6 and Somer, were mounted on towers with rotators, about 400 feet above the lab. To use the gear was a ham's dream. Everything you wanted in one place. After a check out on the gear with the equipment officer Jerry Hawkes W6WXL, I was on my own. It whetted the appetite for more gear.

Before leaving Australia I had made plans to set up a shack with my father-in-law, Charles Armstrong VK1WW on a regular basis, once I had everything in order.

The first thing to arrive was my ARRL membership followed by the FCC licence, effective from 30 April, only two-and-a-half weeks to reply.

Now I needed a key to the shack to get in whenever I had time to go down there, and access to the lab on a Saturday in the US to allow my XYL and our first harmonic to be able to come on the lab on a regular basis for the skeds. This was achieved, and I went to the shack to get the feel of the gear and determine what conditions were like at different times. I established that 10 metres at 0000Z was excellent for DX and that 20 metres was just workable at 0530Z. VK1WW had a regular sked at 0530Z on Sundays in Australia with ZL3QQ, VK2BWW and a couple of others. What better time to try than the 0530Z for the first sked, and then get it changed once contact was made.

Off to the JPL shack at 0500Z (1000pm PDT) on the second last Saturday in May. Try out the pass for XYL and Junior. We're in! Down to the shack. Connect the

TH-6 to the Kenwood TS-820S via the patch panel, power on, scope on and wait for the heaters. The QRN and QRM are both severe. Tune up the finals and wait.

Right on time Tom ZL3QQ came up. VK1WW was up next. Perfect. As soon as he stopped I'd jump in. Success! Contact was made and we then started moving around the 20m band trying to find a quiet spot. Finally on 14200kHz we had a reasonable QSO and decided to try next Saturday on 10 metres. In the meantime VK1WW and brother-in-law Glen VK1GT would construct a 10m beam.

Next Saturday at a civilised hour for us, 0530pm PDT (Pacific Daylight Time) we came up, five and nine both ways. VK1GT's XYL was cross with me for getting Glen involved to a great extent in radio again. He had enjoyed it and was considering becoming active again. We need more active hams.

Skeds continued then without much drama apart from a week of severe solar flare activity. It was impossible to raise VK land, but there were plenty of excited Ws thinking they had a good skip as my FCC licence allowed me to use my VK call rather than issue me with a US call. Boy, were they disappointed!

The next event of interest was the arrival of VK1WW, complete with his XYL, to visit us for a couple of weeks at the end of June. The fourth weekend in June in the US is set aside for Field Day. A 24-hour exercise organised by the ARRL where hams attempt to maintain continuous contact with other hams using alternative forms of power (solar panels, generators etc) no commercial power. The purpose of the exercise is to then allow the ham radio network to assist in establishing emergency communications in times of emergency or national disaster, and also to have a good time with fellow hams.

The members of W6VIO (of which I was now a member), had planned the activity. The plan was to operate three HF rigs, two CW and one phone number, one packet, one satellite and one VHF/UHF. In addition, a novice HF station would be set up for the less experienced or less seasoned hams among us.

Friday 21 June, 8am at the shack. Those able to spend some time assisted with loading the truck with all the field

gear, including the beams from the shipping container complete with masts etc. I was given the task of packing the gear on the truck and tying it down for the trip to Mount Gleason some 30 miles distant from JPL, in the San Gabriel Mountains. Mount Gleason is 6500 feet above sea level. Just after 10am they were on their way. I had to do some work so wished them well and indicated I would be up Saturday morning.

Saturday morning VK1WW and I were off after a slight detour to Ham Radio Outlet. We arrived about 11.30am. What a setup! A 20m steerable beam on a 30-foot mast, a multiband beam (10, 20 and 40 metres) on another 30-foot mast, a 2m/70cm satellite tracking antenna, a 2m repeater, a 2m packet and the piece de resistance was a six-element 40m full wire beam. What a beauty. Two 50-foot masts suitably spaced. A long rope strung between them with the elements drooping down in a V, pointing north-east. Lastly was a G5RV as a spare.

Everything was working well except for the satellite. Oscar seemed down on power. Listening to the bird, you could hear stations trying to tune in but it continually seemed to drop out. I tried for a while without success. You could hear yourself coming back weakly and then all of a sudden it would drop out.

Packet was working well, as was two metres. The two CW locations were burning up the ether but the 20m beam didn't appear to be performing particularly well. Pulled it down, checked the balun, checked the line, checked the connections. Nothing; but, just in case, we replaced the two driven element leads and put it up again with no improvement. However, overall, at the end W6VIO had had its best Field Day ever. In the past four years it has slowly worked its way up the ladder to finish 15th in 1990. They hope to better it again this year.

Monday came around and it was back to normal work. How wrong! Friday 28 June, 7.43am. The ground shook, a 5.8 rumble. I missed the actual ground movement, as I was driving on a rough road at the time and just thought it was extra rough. A pedestrian crossing the road in front of me was acting most strangely and I thought something was wrong with her. Next thing on the radio they announced that we had had a tremor. Turned on the 2m Yaesu FT-227R in the car and in a couple of minutes it was alive with controlled reports, slowly pinpointing the extent of damage and the centre of greatest damage.

By the time I got to work all the buildings at JPL had been evacuated. Everyone sat outside waiting for the first major after shock. We waited for an hour and a

half and finally it was decided to send all non-essential staff home for the day. Half an hour later we had our first good after shock, a 4.0 rumble. The 2m rig was still alive and continued most of the daylight hours as further after shocks took place. Next Monday, back at work. A look at the building my office was in showed definite signs of stress up through the stairwell. The cracks were evident only in the direction of the flexing of the building.

During the morning of the quake as all buildings had been evacuated no telephone access was possible. The JPLARC has established 'on lab' an Emergency Communications Team (ECT) for just such happenings. They swung into full action using hand talkers on 1.25 metres. The response was outstanding and the club was thanked for its proficiency following the quake.

T-shirt shops in the shopping mall at

Glendale had shirts out that day with "I Survived the 28th of June 1991"

In July the President of the JPL Amateur Radio Club, Art Zygielbaum WA6SAL was kind enough to give me access to his repeater. The repeater received on 70cm and transmitted on two metres. Via the repeater I was able to access an HF rig, an ICOM 735 connected to a Cushcraft R5 multiband vertical antenna. I controlled all this using a Yaesu FT-470 hand-held. The result was excellent and I thoroughly enjoyed the experience. Full control, bands, the works using a hand-held. I really appreciated the availability of the repeater. Thanks Art.

I have seen amateurs in action in another country, listened to them and become a part of their activities. I have been impressed, and hope that we in Australia are as efficient. **AR**

Remember the Titanic

This year, 1992, marks the 80th anniversary of the maiden voyage and tragic demise of the *RMS Titanic*. A major convention is to be held by the Titanic Historical Society in Mass, USA.

To commemorate the vital part played by radio in the rescue of survivors of the tragedy, several of whom will attend the convention, at least two amateur stations will be operating for the purpose of remembering the event, with the issue of a special QSL card.

The ARRL informs that KA1BB, Tri-City Amateur Radio Club of Graton, Conn, will operate from 1300Z to 2100Z on 11 and 12 April. Frequencies will be between 7.225-7.300, 14.225-14.350, 21.275-21.350 and 28.300-28.500MHz.

Here in VK Land, Ian VK2WR, a member of the Titanic Historical Society, will operate a station under his own call each day from 11-15 April between 0600Z and 0900Z on the 15m band - CW on 21.080, SSB on 21.180 and 21.280; also between 1000Z and 1300Z on the 20m band - CW on 14.008, SSB on 14.180 and 14.280. All frequencies +/- QRM.

An attractive red, white and black QSL card, shown here, will be forwarded to any station requesting one. VK stations may be via Bureau, or direct (self-addressed stamped envelope, QTHR 1992 VK Callbook). Overseas stations via Bureau or direct with SAE and 2 x IRCs to Manager VK2DZF QTHR International Callbook.

Ian C Griggs

REMEMBER the TITANIC



1912 - 1992



VK2WR VK2MGY

COMPASSING ONE NOTE	STATIONARY	NON	MODE	STATION
DATE	TIME	EST	TIME	STATION

VK1 C QTHR 08 Remembrance Centre 701 2134 NSW Australia

MORE FEATURES FOR YOUR MONEY!

FT-411E 2m HANDHELD

Superb performance on the 2m band. Top of the line features, reliability and value for money from the name you can trust. Yaesu. Only the compact FT-411E offers these standard features.

- 144 to 148MHz transceive operation, with enhanced receiver performance
- Ultra long life 1000mAh 7.2V NiCad battery pack
- 2.5 watts RF output as standard, 5 watts with 12V DC (or optional FNB-11 NiCad)
- Better than 0.16uV (12dB SINAD) sensitivity
- Programmable power saver for extended operating periods
- Keypad or dial frequency entry, with selectable tuning rates
- 49 tuneable memories which store repeater offsets
- Band, memory, priority or limited-band scanning
- Just 55 x 155 x 32mm
- Carry case, belt clip, carry strap and approved AC charger
- **Now with enhanced receiver sensitivity and improved strong signal handling!**

Cat D-3350

2 Year Warranty

\$479

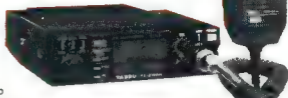


FT-212RH MOBILE 2m FM TRANSCEIVER

The FT-212RH is an ideal mobile FM transceiver that also doubles as an easy to use base station. With 45 watt output over the 144-148MHz range, rugged diecast chassis (for superb RF isolation) and extensive use of surface mount components.

What's more, it has a large back-lit LCD with a bargraph P.O.S-meter, 5 selectable tuning steps and a total of 21 memories (18 general purpose, 1 call channel and 2 sub-band limit memories for band scanning). As well, there's inbuilt CTCSS encode and a variety of scanning functions. Complete with mobile mounting bracket, MH-14A8 microphone and DC power lead.

Cat D-3494



2 Year Warranty

\$569

FT-4700RH MOBILE 2m/70cm FM TRANSCEIVER

Check this out for fantastic value! With full-duplex or dual-band operation, remote mountable front panel option and 50W output (2m) & 40W output (70cm). It also has full 2m and 70cm frequency and signal strength displays, back-lit controls and an inbuilt cooling fan. To top it off, you get 20 memories, 5 selectable tuning steps and a number of scanning selections. Complete with microphone and mounting bracket.

Cat D-3300



Remote Panel Kit YSK-4700

Cat D-3301

\$59⁹⁵

A C N 000 908 716

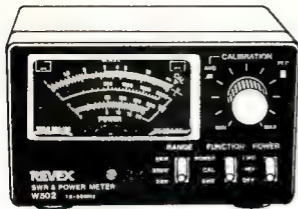
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Hurry, stocks are strictly limited!

2 Year Warranty

\$999

B*307/BK



HF/6m POWER/SWR METER

A superb wideband SWR/Power meter which boasts quality Japanese construction and a truly accurate PEP metering circuit (unlike many 'other' so called PEP monitor systems). The Revex W502 features solid construction with an all-metal case and a large back-lit meter and it covers the 1.6 to 60MHz range with less than 0.1dB insertion loss. With 20W, 200W and 2kW power ranges and LED indicators which show average or PEP operation. Requires 13.8V DC @ 200mA power supply.

Cat D-1360

\$199



NEW
FOR
'92

DIAMOND D-130J DISCONE ANTENNA

This quality Japanese disccone antenna covers the frequency range 25-1300MHz, and was designed to be easy to assemble and install. The extensive use of stainless steel in the D-130J makes it very durable, while allowing transmission on the 6m, 2m, 70cm and 23cm bands with a maximum power rating of 200W PEP. Comes complete with mast mounting hardware and instructions.

Cat D-4840



\$169

ST-7500 DUALBAND MOBILE ANTENNA

At last, a high performance dual band mobile antenna at a down to earth price. The ST-7500 is just 1metre long and uses a ground independent design to provide high gain (3dB on 2m, 5.5dB on 70cm) with a maximum power rating of 150W. Quality Japanese construction together with a tiltable whip structure make this an ideal antenna for the discerning mobile operator. Requires SO-239 antenna base (D-4035 recommended).

Cat D-4610

NEW
FOR
'92

\$79⁹⁵

DIAMOND VHF/UHF BASE STATION ANTENNAS

These high quality, vertically polarised base station antennas are ideal for the discerning Amateur operating on the 2m, 70cm or 23cm bands. They're beautifully constructed Diamond brand antennas from Japan which provide high gain for maximum range. Constructed from robust F.R.P. tubing for excellent all-weather operation, with ground-plane radials for a clean radiation pattern.

2m ANTENNA F-23A

Frequency 144 — 148MHz
Gain 7.8dB
Max. Power 200W
Max. Wind Speed 144km/h
Length 4.53m
Type 3 x 1/2" x co-linear
Cat D-4850

\$199

2m/70cm ANTENNA X-200A

Frequency 144 — 148MHz, 430 — 450MHz
Gain 6dB on 2m, 8dB on 70cm
Max. Power 200W
Max. Wind Speed 180km/h
Length 2.5m
Type 2 x 1/2" x (2m), 4 x 1/2" x (70cm)
Cat D-4860

\$199

2m/70cm ANTENNA X-500A

Frequency 144-148MHz, 432-450MHz
Gain 8.3dB on 2m, 11.7dB on 70cm
Max. Power 200W
Max. Wind Speed 144km/h
Length 5.2m
Type 3 x 1/2" x (2m), 8 x 1/2" x (70cm)
Connector N-type socket
Cat D-4865

\$299

Limited Stocks!

23cm ANTENNA F-1230A

Frequency 1260 — 1300MHz
Gain 13.5dB
Max. Power 100W
Max. Wind Speed 144km/h
Length 3.06m
Type 25 x 1/2" x co-linear
Connector N-type socket
Cat D-4670

\$239

Limited Stocks!

2m 1/2 WAVE BASE STATION ANTENNA

— DIAMOND F-1200

An outstanding value for money compact Australian made base station antenna which is only 1.69m long. It uses a single section F.R.P. radome for excellent all-weather operation and covers 144-148MHz with less than 1.5:1 SWR. The antenna provides approximately 3dB gain with a maximum power handling of 200W FM. It is fitted with an SO-239 socket mounted into the base for easy coax connection and comes with a 5 year warranty.

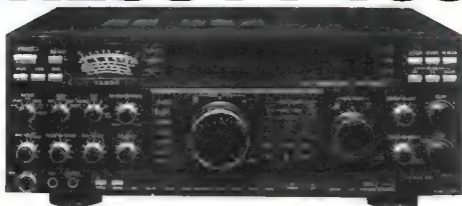
Cat D-4820

\$49⁹⁵

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ELECTRONICS

61297 LB

EX-DEMO CLEARANCE YAESU FT-1000



Now's your chance to get the 'Best of the Best' at a bargain price! Right now you can pick up an ex-demo FT-1000 deluxe HF all-mode transceiver and save a fortune. Here's what the experts have to say about this incredible transceiver...

On Operation

"The layout of the front panel of the FT-1000 is just right... I reckon the FT-1000 is (operationally) far less complex than either the Icom IC-781 or the Kenwood TS-950S." -ARA
"I found the FT-1000 easier to learn and use than any other radio in its class." -QST

On Documentation

"Clearly written and complete, and includes a complete set of schematics and many high quality photos." -QST
"The quality of printing and presentation of this book is the best I have seen." -AR

On the Receiver

"This rig has a very strong receiver, it has the best overall performance (in terms of sensitivity and dynamic range) and the highest third order input intercept of any commercial radio ever tested in the ARRL lab." -QST
"The direct digital synthesizer works very well and produces receiver performance that sets new standards." -AR
"I found the receiver in the FT-1000 to be astonishingly sensitive and immune to cross modulation." -ARA

Transmitter - SSB

"The FT-1000 is easy to adjust and use... The processor adds quite a bit of punch to SSB signals, hams I worked on SSB with the FT-1000 gave me good audio quality reports." -QST
"Reports were a very favourable, especially when using the speech processor." -AR

Transmitter - CW

"CW keying was a delight... power output was checked in the CW mode and found to be well in excess of 200 watts on all bands." -AR
"On CW the FT-1000 was absolutely faultless." -ARA
"CW operation with the internal keyer is a breeze." -QST

Transmitter - RTTY/Packet

"Using the set on HF packet was an absolute pleasure..." -PW
"Packet and RTTY modes were tried and proved just superb." -ARA

Conclusion

"...the FT-1000 represents unbelievable value." -AR
"It's an excellent set worthy of accolades and rave." -ARA
"...the FT-1000 needs little for me to consider it the ultimate contesting and DXing machine available today." -QST
The FT-1000's combination of Direct Digital Synthesis, high output power, ultra-high performance receiver and easy to use controls put it far ahead of the competition. Hurry in today and check out our limited number of ex-demo models all with a full 2 year warranty. Wouldn't you rather be using the "Best of the Best?"

2 Year Warranty

\$4295 **SAVE \$700**
Get D-3200
(ex-demo models only)
Includes MD-1 desk mic

Ex demo units are available only at our York St, Nth Ryde, Chermide, Brisbane City, Springvale, Coburg, Bourke St Adelaide City and Perth City stores.

Magazines

ARA - Amateur Radio Action Vol 13, No 2
AR - Amateur Radio August 1990
P.W. - Practical Wireless January 1990
QST - ARRL QST March 1991 (review with optional filters fitted)
Copies of our 12 page colour brochure are available upon request.
Phone (008)226610 or (02) 8882105

Some models may be shop soiled. However all come with a full 2 year warranty



The Tradition Continues...

FT-990HF ALL-MODE TRANSCEIVER

Take a quick look at the all-new FT-990 and you'll soon see the similarity to the top-of-the-line FT-1000... and for good reason. The incredible FT-990 embodies many of the advanced features and ease of operation of the FT-1000. But in a more compact, economical package that sports several new advances in both transmitter and receiver design.

Cat D-3260



\$3495



Designed For Easy Operation

Just like the FT-1000, Yaesu have designed the FT-990 to be as easy as possible to operate. The front panel layout puts all frequently used controls right where they should be... at your fingertips. All controls are clearly labelled and the digital display provides an abundance of information in an uncluttered and easy to read format. The front panel keypad offers one-touch band selection (160m - 10m) with 2 independent VFOs per band and 90 memories that store the operating data held in both VFOs. You can't help but appreciate the large back-lit analogue meter rather than those confusing bar-graph meters found on other transceivers.

Unique Features

- Customizable RF Speech Processor - Yaesu's unique Frequency Shifted Processor (FSP) lets you shift the IF passband of your transmitted SSB signal to provide maximum punch with your voice/microphone combination.
- Digital Audio Filtering - Razor sharp audio filtering is available for tough SSB and CW reception conditions through the use of an astounding dual digital Switched Capacitance Filter (SCF) with independently adjustable selectivity skirts.
- Packet/RTTY - Separate interface jacks for a RTTY terminal unit and a Packet TNC are provided, while the mode select on buttons disable the mic automatically in the digital modes.

Direct Digital Synthesis (DDS)

Two 10-bit DDS and a magnetic rotary encoder provide silky-smooth VFO tuning, pure local oscillator signals, and very fast Tx/Rx change-over... and that's very important for QSK CW and digital modes. The DDS is teamed with an extremely low-noise, high performance receiver front-end using a PIN-diode controlled push-pull RF amplifier followed by a quad-FET ring mixer. The result is a very wide receiver dynamic range from 100kHz to 30MHz. Transmitter signal purity is also enhanced, with circuit noise nearly 90dB down from the carrier.

Convenience Features

- A highly efficient AC switch-mode power supply is built-in. It allows high duty-cycle transmission while keeping the weight way down, saving space and the added expense of external power supplies.
- An in-built Automatic Antenna Tuner with 39 memories is standard!
- Modular construction maximizes selectivity and makes servicing easy.
- Effective interference rejection is facilitated by IF shift, IF notch, IF bandwidth, and SCF audio controls.
- An adjustable noise blander, a 500Hz B/W IF crystal filter and a comprehensive, easy to read user manual are also supplied.

STORE LOCATIONS:

NSW • Auburn 21 8399 • Bankstown Square 707 4888 • Blacktown 671 7722 • Brookvale 905 9441
 • Bondi 367 1444 • Campbelltown 27 2199 • Chateau Chase 411 1955 • Chullora 942 8922 • Gore Hill 438 5311 • Gosford 25 0235 • Hornsby 477 0833 • Hurstville 580 8622 • Kogarah 56 2092
 • Liverpool 890 9888 • Maitland 33 7866 • Miranda 525 2722 • Newcastle 81 1898 • North Ryde 878 3650 • Orange 618 400 • Parramatta 689 2188 • Penrith 32 3480 • Rabyway Square 211 3771
 • Sydney City 267 5111 • Tamworth 66 1711 • Wollongong 28 3800 ACT • Belconnen (06) 253 1785
 • Fyshwick 80 4844 VIC • Ballarat 31 5433 • Bendigo 43 0386 • Box Hill 890 0899 • Coburg 383 4655
 • Dandenong 794 9377 • East Brighton 592 2386 • Essendon 379 7444 • Footscray 689 2695
 • Frankston 783 9144 • Geelong 225 711 • Melbourne City 399 Elizabeth St 328 8084 & 245 Bourke St 839 0396 • Richmond 426 1814 • Ringwood 879 5338 • Springvale 547 0522 QLD • Brisbane City 229 5277 • Bundamba 381 6233 • Cairns 311 515 • Capetown 245 2878 • Cherrade 359 6255
 • Blackham 288 5589 • Rockingham 27 8644 • Southport 32 8623 • Townsville 38 4360 • Townsville 72 5722 • Underwood 341 0644 • SA • Adelaide City 223 4122 • Beverley 347 1900 • Elizabeth 265 8099 • Enfield 280 8068 • St. Marys 277 8677 WA • Cannington 451 8888 • Fremantle 335 9733
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B1297/LB

FT-757GXII ALL MODE H.F. TRANSCEIVER

A ways ready to act on! Whether you're in a demanding H.F. mobile situation or at home in the shack, the FT-757GXII won't let you down. Based on its popu ar predecessor (the 757GX), the MK2 features the same heavy duty die-cast heatsink and rugged metal chassis for long term reliability. As well, 1 offers even easier to use controls and new features such as a pushbutton mode selector and F notch filter.

- All mode operation - SSB, CW, AM, FM (160m-10m)
- 100 watt output on SSB, CW, FM (25W AM) at 100% duty cycle
- High performance general coverage receiver - 150kHz to 30MHz
- Dual VFO's with single button VFO/memory swap functions
- Memories store freq & mode and allow band scanning between adjacent memories
- Inbu t 600Hz CW filter, IF shift and IF notch filters, variable noise blanker, speech processor, iambic CW keyer and SWR meter

Cat D-3492

Save \$100

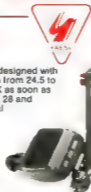
Now Only
2 Year Warranty \$1595



FT-650 6m,10m,12m ALL-MODE TRANSCEIVER

Yaesu's new FT-650 all-mode mobile transceiver has been designed with the 6m enthusiast firmly in mind. With continuous reception from 24.5 to 56MHz you can follow the rising M.U.F. and work the 6m DX as soon as the band opens. Output is a powerful 100 watts on the 24.5, 28 and 50MHz bands (SSB, CW, FM), and the use of 3 Direct Digital Synthesizers results in extremely clean Tx and Rx operation. Particular attention has been made to the receiver's performance, with 6 Band Pass Filters and a 2 stage, low noise RF Amp being used to provide exceptional sensitivity (SSB/CW, 0.125uV) and wide dynamic range. Includes user selectable tuning steps, manual or automatic tuning IF notch filter, an IF shift control for interference rejection, an RF bandwidth control, 105 scannable memories, an RF Speech processor and an effective noise blanker. Includes Yaesu MH-1 hand microphone.

Cat D-3250



\$2295

The Only Place To Shop For All Your Accessories

QUALITY 2-WAY COAX SWITCH

This high quality 2 position 50 ohm coax switch is ideal for HF, VHF and UHF uses up to 1000MHz. It offers superb isolation, low insertion loss (<0.1dB @ 1000MHz) and 1kW PEP HF power rating.

Cat D-5208

Revex model S20

\$59.95



Also available model S20N with N connectors

Cat D-5202

\$99.95

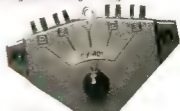
With Surge Protection!

4-WAY COAX SWITCH

A high quality 4-way coax switch featuring rugged die-cast aluminium construction, 2kW PEP (max) power handling at 30MHz and only 0.3dB insertion loss. What's more, it has an inbuilt surge suppressor and automatic grounding of all unused connections to help protect against lightning induced surge damage.

Cat D-5204

\$89.95



STORE LOCATIONS:

NEW • Albany 21 8399 • Bankstown Square 707 4888 • Blacktown 871 7722 • Brookvale 905 0441 • Bondi 387 1444 • Campbelltown 27 2199 • Chesham Chase 811 1955 • Chiswick 842 8622 • Gore Hill 438 5311 • Gosford 26 8226 • Hurstville 477 9833 • Hurstville 580 8622 • Kogarah 58 5092 • Liverpool 600 8868 • Maitland 33 7868 • Miranda 525 2722 • Newcastle 81 1999 • North Ryde 878 3855 • Orange 616 400 • Parramatta 688 2188 • Parrish 32 3400 • Railway Square 211 3777 • Sydney City 287 8111 • Tamworth 68 1711 • Wollongong 26 3400 **ACT** • Belconnen (06) 253 1788 • Fyshwick 290 4844 **VIC** • Ballarat 31 5433 • Bendigo 43 6366 • Box Hill 890 0099 • Coburg 382 9435 • Dandenong 794 6277 • East Brighton 592 2366 • Essendon 378 7444 • Footscray 689 2055 • Frankston 783 8144 • Geelong 232 711 • Melbourne City 399 • Elizabeth 326 6068 & 246 Bourke St 839 0508 • Richmond 428 1814 • Ringwood 878 5336 • Springvale 547 0622 **QLD** • Brisbane City 228 8377 • Buranda 261 8233 • Camm 2171 01 • Capelbelle 348 2870 • Charnside 358 6255 • Rodbank 286 5599 • Rockhampton 27 9644 • Southport 32 8033 • Townsville 36 4306 • Townsville 72 5722 • Underwood 341 0844 • **SA** • Adelaide City 232 1206 • Glenelg 347 1300 • Elizabeth 255 8099 • Enfield 260 6088 • St. Marys 277 8877 **WA** • Cammerlang 451 9896 • Fremantle 335 8733 • Perth City 481 3261 • Midland 250 1480 • Northbridge 328 9944 **TAS** • Hobart 31 0800 **NT** • Stuart Park 81 1977

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B1307/1

AWARDS

JOHN KELLEHER VK3DP - FEDERAL AWARDS MANAGER
(C/- EXECUTIVE OFFICE)

By now, I will have taken responsibility for the DXCC operation. When I was appointed Federal Awards Manager, I knew that I would have some problems. Those problems were overcome. Now, I will treat DXCC in the same way, and with effort and help will have it under control by at least mid-year. So here is a likely program:

1. Applications for, and upgrades to, DXCC will be processed, as usual

2. DXCC listings will be temporarily delayed while I re-organise the existing files.

3. The bracket showing deleted countries will not be retained (for publication) but will be kept by this office. The numbering system for modes will be retained, ie SSB, CW and open.

4. DXCC standings list should, when published, show the top 25 or those above 200 countries confirmed, whichever is applicable, depending upon magazine space available. To publish the complete list would take up over half the magazine.

5. If you have any argument with the list when published, let me know so I can make it absolutely correct.

So, I beg of you, be patient, don't overload my desk. Heaps I can deal with, a deluge takes much longer.

Finally, please send all enquiries to the above address, not to my home.

The Royal Flying Doctor Service Award

This award recognises the services provided over large parts of outback Australia by the Royal Flying Doctor Service, established in 1928, and to the many radio amateurs who were, and still are, involved in its operation. You can earn the award annually (a different certificate each year) by making the necessary contacts between 8 February and 2

August each year. All contacts must be on the 10m band.

Using as many letters as you wish from the prefix and/or suffix of station call signs worked (or heard) from anywhere in the world, make

up the words: **Royal Flying Doctor Service**. Each call sign can only be used once per year. If you work a VK station who works for, or relies upon the RFDS for normal contact with the world, you instantly qualify for the award.

Your GCR list and \$A5 for VK and \$US5 for DX stations. Note: Only \$1 will be used for the certificate and mailing costs. The balance will be sent to RFDS.

To apply - RFDS Award, PO Box 1073, Subiaco WA 6008, Australia. **ar**



LY AWARD'S PROGRAM

Lithuanian Amateur Radio Society (L.R.M.D.)

issues following awards to any amateur. Some rules to SWLs.

LY TROPHY

Is given for two-way contacts with LY stations as follows:

Europe 25 LY stations Rest of World..... 10 LY stations
Oceania..... 5 LY stations VHF (144 MHz and above) ... 3 LY stations

Send certified list of contacts (no QSL's) and \$5 US or 10 IRC or equivalent to L.R.M.D.

BALTIC WAY

Award available to any amateurs confirming 2-way contacts with three Baltic states: ES (1QSO), LY (1QSO), YL (1QSO) in 24 hours.

Send certified list of contacts (no QSL's) and \$3 US or 6 IRC or equivalent to L.R.M.D.



L.R.M.D. Award Manager

P.O.Box 1000, Vilnius, 2001 LITHUANIA

Islam award

Contact with UM-RM, RL-UL, UI-RI, UJ-RJ only four QSOs.

All bands and all modes. Amateurs and SWLs.

GCR lists + \$US3 or 5DM or 7IRC.

Please send to:

Marat G Valiev

Box 53 Bugulma Tatarstan
423200 USSR

CONTESTS

(INFORMATION PROVIDED BY RELEVANT CONTEST MANAGERS)

Contest Calendar

April

4-5 SP-EX - P
25-26 Helveta - M

May

2-3 Italian International DX - M
9-10 CQ-MIR (UA) - M
30-31 CQ-WPX - C

June

6-7 RSGB/IARU Field Day - C
20-21 All Asia SSB - P

July

11-12 IARU - M
18-19 Seant CW - C

August

1-2 YO-DX M
8-9 WAE-DX DARC - C
15-16 RD Contest 1992
29-30 All Asia CW - C

September

6 LZ-DX C
12-13 WAE-DX DARC - P

19-20 SAC CW - C
26-27 SAC SSB - P
26-27 CQ WW DX RTTY - R

October

3-4 VK-ZL Oceania - P
10-11 VK-ZL Oceania - C
17-18 21MHz CW RSGB - C
24-25 CQ WW DX SSB - P

November

8 OK-DX - M
28-29 CQ WW CW - CW

December

5-6 ARRL 160m - C
12-13 ARRL 10m - M

Key: M - Multimode. P - Phone. C - CW. R - RTTY
VK6NE **ar**

Ross Hull Contest 1991-1992: Results

The level of activity this year was higher than last year, especially on 432MHz and higher bands. However, the number of logs received was the same as last year. Very few logs ever gave much emphasis to six metres but the higher bands were better represented. A number of quite active stations did not send in logs - this is a pity, because they could have scored quite well.

In contrast to the higher bands, most 6m scores were quite low and it seems that most entrants did not try very hard on this band. Maybe they felt that the 10-point limit did not make six metres worth the effort. However those who did work at six metres were well rewarded for it.

The message is clear: the more bands the better! The scoring is designed to encourage multiband operation and the scoring table shows that an extra band can have quite an effect on the total score.

Only one overseas log was received - from Yutaka Kato JH1WHS, who is well known to 6m operators in this country. Other unusual entries were the four for 10GHz. These are not seven-day scores as they resulted from three contacts each on one day. They are included for the sake of "stirrers" and also to encourage more microwave activity next time around.

I did not spend much time on six metres so did not hear any contest QRM on 50.110MHz. However, some was reported. On higher bands, the QRM on calling frequencies was worse than last year and once again a number of DX contacts were missed because of local QRM. This kind of operation is selfish, self-defeating and certainly not in accord with the spirit of the contest. It would be so much better for everyone if people would spread out and give each other a fair go.

Comments on the band multipliers were favourable, so these will be left as is. There were no complaints about the duration, so that will also remain the same.

For the past two years, the contest has begun on the weekend before Christmas, but this year Christmas Day falls on a Friday. This week leading up to Christmas will be quite hectic for most people, so it might be better to start the 1992-1993 contest on Saturday, 26 December. With the three-week duration the finishing date would then be Sunday, 17 January.

The change to the 1800 UTC starting time for contest days seemed to achieve the effect of shifting activity into the evenings, and did not cause any great confusion. Several dating methods were used by entrants but all were understandable!

Several comments were made about the different exchanges for the Ross Hull Contest and VHF/UHF Field Day. There was also some concern about the Field Day numbers being consecutive, while the Ross Hull numbers were not. Some entrants exchanged separate numbers for both contests to make sure they were fully within the rules. This was not what I intended, and I ignored the exact format of the numbers when checking the logs.

The rules need to be made clearer on this point so everyone knows where they stand. Next time both contests will use three-digit serial numbers, and entrants can choose whether to make them cumulative or start each day at 001.

Many thanks to all those who sent comments with their logs. I would be glad to hear any other comments or suggestions about the rules for 1992-1993.

VHF-UHF Field Day 1992: Results

The Field Day was better supported this year than in 1991, and the change of date to the last weekend of the Ross Hull Contest was well received. There was more 1296MHz activity than last year, but there was only one log for 2.3GHz and four "stirrers" on 10GHz.

The scores covered an enormous range and it was particularly good to receive the low scoring logs. Low scores do not reflect on the entrants who took the trouble to go portable - rather they reflect on the other stations who weren't around to work them! This was especially the case in VK6.

It was also good to receive a novice log - to my knowledge the first ever for any VHF-UHF contest.

Some logs contained repeat contacts made within the four-hour limit and their scores have been adjusted. Several logs contained no repeat contacts and I assume this was because the other stations were no longer around - otherwise there could possibly have been some confusion with the Ross Hull Contest rules.

The winner this year is Brian Young VK3BBB. With such a stupendous score he will obviously take a lot of beating next year. Brian also gained top score on two metres, 70cm and 23cm, so he will receive a nice collection of certificates.

The top score on six metres goes to VK5BW, and on 13m to VK5AKK; VK3ATL wins the multi-operator section - a very good score, but no doubt they would have liked more competition! The home station prize goes to VK3AU!

Congratulations to all!

Ross Hull Contest

The table of results appears below and it shows that Roger Steadman VK3XRS has topped the pool once again. He also achieved the top score on six metres, two metres and 1296MHz. Gordon VK2ZAB wins the prize on 70cm, and Mark VK5EME on 13cm. The four "stirrers" share the prize on 10GHz. There was no operation on 3456 or 5780MHz. Congratulations to all concerned!

Call	Operator	96	144	432	1296	2304	10368	Total
VK3XRS	R Steadman	1252	2580	2023	750			6605
VK2ZAB	G MacDonald		2132	2187				4219
VK2SHC	I Niven	205	1764	1684	160			3853
VK5EME	M Kinmer	84	1728	896	360	143		3211
VK5AKK	P Helbig	230	1480	812	160	78		2780
VK3AUJ	G Sones	422	924	966	540			2587
VK2ZAR	A Hey	90	1300	1120				2510
VK3CY	D Clarke	1428	938					2366
VK3ZJC	J Martin	91	640	854	820		48	2313
VK3AJG	N Saliman		1240	805				2045
VK3RTA	R Rode		840	917				1757
VK2DVZ	R Baslin		1196	256	270			1732
VK4K2R	R Preston		1072	476	130			1678
VK4DH	D Hooton	7	1280	224	100			1611
VK3KAP	A Perkins	7	815	671	170			1464
VK2ZRE	R Gilbert	38	736	294				1068
VK2KMD	M Ertkine	443	536	7				986
VK3BBL	M Drew	5	208	126	160	91	48	638
VK5LP	J Jamieson	43	208	203	80			534
JH1WHS	Y Kato	380						380
VK5WVI	P Parker	2	132					134
VK3AJQ	A Elliott							48
VK3TAF	P Ford							48

VHF-UHF Field Day Results

Call	Operator	Location	96	144	432	1296	2304	10368	Total
VK3BBB	B Young	Mt Shene	852	10980	9702	560			22094
VK5BW	A Rafferty	Kulpo Forest	1122	6240	5229				12591
VK3APW	R Cook	Mill Butler		2652	2590	20			5252
VK5AKK	P Helbig	Kangaroo Is	38	3400	1050	30	39		4587
VK4DE	D Friend	Byron Bay	405	1320	546	220			2581
VK5WV	G McEwing	Black Hill		700	210				910
VK5NOT	I Norriest	Mt Oskuden		180					180
VK3AJQ	A Elliott	Millcham						128	128
VK3BBU	M Crew	Millcham						128	128
VK3TAF	P Ford	Millcham						128	128
VK3ZJC	J Martin	Millcham						128	128
VK3KCV	D Dobrosak	Lorne				80			80
VK5BWV	P Parker	Perth		24					24
VK4K2R	R Preston	Maleny		10	3				13

* C Giacchini VK3BRZ, M Trickett VK3ASQ, P James VK3AWY, J Pile VK3ZPD, A Forster VK3AJF

Assuming that the next Field Day will run again over the last weekend of the Ross Hull Contest, next year's dates will be 16-17 January.

There were quite a few comments on the need to bring the Field Day exchanges into line with those for the Ross Hull Contest. This will be done. No-one seemed keen on dropping the RST report from the Field Day logs so that will be restored too. The only difference now between the two contests will be the maidenhead locator exchange.

There was some dissatisfaction with the locator-based scoring, and it was suggested it should be replaced with distance-based scoring as in the Ross Hull Contest. It was also pointed out that multiplying contacts by locators on each band favours the lower bands where more locators are worked - ie big scores get even bigger when they are multiplied by the locators.

I would like to keep the rules as simple as possible, but there is a good case for fixing these problems. Should we go to exactly the same scoring as the Ross Hull Contest? An alternative suggested by Brian VK3BBB is to use locators to get rough distance-based scores by adding the number of "across" and "down" squares between the two stations.

Most Field Day operators are also active in the Ross Hull Contest, so perhaps the first choice would be best. Many people still do not know their locators, so should we keep on encouraging "locator awareness" or give up on them? One reason for keeping the locator scoring was because of the new Grid Square Award, but VHF operators have shown very little interest in it so far.

There are also some problems with the timing and duration. Several entrants mentioned that they could not stay out overnight and would appreciate a one-day section - say six or eight hours. This will be done next year. The 0200 UTC start works well, but activity tapers off on Sunday morning and many entrants finish early. In Western Australia the 11am finish on Sunday is an obvious problem.

I would appreciate comments on this idea for next year: a later finish on the Sunday - say 0600 UTC - but with two sections: a "day tripper" section based on one six-hour period, and a "full marathon" section based on any three six-hour periods. This would make it easier for those who can only go out for one day, and it would also allow the overnights to get some sleeping time.

Comments from the Logs

"Even though I have a low score I thought I would put in a log to support the change in date of the Field Day."

"It really should be called a field night ... there was very little activity after 9am Sunday."

"I went out again to have fun - not necessarily win the event - and have fun I did! A lone operator planning, setting up, operating

and pulling down a four-band VHF-UHF station, with good antennas on each band, sounds like a lot of work, and it is. But the successes of getting it all going and having a variety of contacts are very satisfying. I would recommend that lots more people try it for themselves - get involved!"

ARI Contest (Italy)

The 1992 ARI International DX Contest Aims

It's a world-wide competition - everybody can work everybody.

Date and Time

Every first full weekend of May from 2000z Saturday till 2000z Sunday. In 1992 it will be on 2-3 May.

Eligibility

1. Single operator - CW
2. Single operator - SSB
3. Single operator - Mixed
4. Multi operators - Single TX - Mixed
5. SWL - Single operator - Mixed

Bands

Ten metres through 160m (except WARC bands) are allowed according to IARU band plans. Band and mode can be changed only after you have been on it for 10 minutes.

Exchange

Stations will send RST and a serial number from 001.

QSO/Points

- a) QSO/HRD with own country counts 0 points, but is good for the multipliers' credit;
- b) QSO/HRD with own continent counts one point;
- c) QSO/HRD with different continent counts three points;
- d) QSO/HRD with any Italian (I and ISO) station counts 10 points.

The same station can be contacted on the same band once on SSB and once on CW, but only the first QSO is good for multipliers' credit.

Multipliers

- a) all Italian provinces (95) count one multiplier;
- b) all DXCC countries (except I & ISO) count one multiplier.

The same multiplier (country/province) can be counted once for band.

The 95 Italian provinces are: 1: AL, AT, CN, GE, IM, NO, SP, SV, TO, VC. 1X: AO. 1Z: BG, BS, CO, CR, MI, MN, PV, SO, VA. 13: BL, PD, RO, TV, VE, VR. 1V: IN: BG, TN. 1V: GO, PN, TS, UD. 14: BO, FE, FO, MO, PR, PC, RA, RE. 15: AR, FI, GR, LI, LU, MS, PI, PT, SI. 16: AN, AP, AQ, CH, MC, PS, PE, TE. 17: BA, BR, FG, LE, MT, TA. 18: AV, BN, CB, CE, CZ, CS, IS, NA, PZ, RC, SA. 17: CL, CT, EN, ME, PA, RG, SR, TP, AG. 110: FR, LT, PG, RI, ROMA, TR, VT. 180: CA, NU, SS, OR.

Final Score

The sum of QSO/points from all bands times the sum of multipliers from all bands.

SWL

SWL have the same rules as OM. The same station cannot appear more than three times on every band as a correspondent.

Logs and Summary Sheet

Separate logs are necessary for each band. Logs must show all the QSOs' data. Duplicate contacts must be marked and with points = 0. A summary sheet is required showing all the scoring details on each band, class of entry, name, call sign, full address of the applicant, call sign of other operators and a signed declaration. A dupe sheet is required for entries with more than 100 QSOs on one band.

Logs must be mailed within 30 days from the end of the contest and addressed to: ARI Contest Manager I2UTY, PO Box 14, 27043 Broni (PV), Italy. Please enclose your station's description and your comments. A picture will be much appreciated.

Awards

A plaque with a certificate will be awarded to the top scoring station in each class.

Special plaques can be awarded by the contest committee if country/continental/call-area participation will justify the decision.

A certificate will be awarded to Nos 2, 3, 4, 5 top scoring stations in each class as well as to the top scoring stations in each country in each class.

A free T-shirt will be awarded for working a minimum of:

European stations: 250 different Italian stations

Extra-European stations: 100 different Italian stations

The T-shirt cannot be won twice working the contest in the same category. You must include an alphabetical list of the Italian stations worked.

Free Software

An IBM-compatible software to administer this contest is available free of cost. It can be used on real-time or after the contest. It calculates points, multipliers and score; you have just to type the call sign and the received report. It prints logs, summary and dupe sheets as well as QSL labels. The software can be received by sending \$US7 or 10 IRCs to cover the diskette postage expenses to the contest manager.

**Have you advised the
WIA Executive
office of your new
callsign?**

**Use the form on the
reverse of the
amateur radio address
flysheet.**

HOW'S DX

STEPHEN PALL VK2PS - PO Box 93, DURAL 2158

After an apparent quiet period, activity is gathering pace and new rare DX prefixes will soon appear on the air. Everybody was waiting on the great event: the South Sandwich DXpedition. Hopefully many of you had the opportunity and luck to work them. Propagation to the northern hemisphere is improving day by day as the sun starts on its move away from the south. Let's hope the next few months will bring you that rare country for which you have been waiting so long.

Aves Island - YX0AI

If you have not succeeded in breaking through the pile-up on 14195kHz in the late afternoon VK2 Standard Eastern Time, do not despair, you are not the only one who has not worked them. I, and many others also, did not make it, and my impression is that only a few lucky VKs and ZLs could attract the attention of the operators who were heavily involved with Europe, North America and Japan. Nevertheless the operation took place from 28 February to 3 March, as planned.

This was a joint activity between the Association of Amateur Radio of Venezuela (ARV) and the Venezuela DX Club. They were active on all bands, and the occasion was to celebrate the 25th anniversary of the Venezuela DX Club and the 500th anniversary of Columbus discovering the Americas. QSL route: SSB contacts to ARV, PO Box 3636 Caracas, Venezuela, and CW contacts to the TV DX Club, PO Box 7458, Caracas, 1070-A Venezuela.

Clipperton Island - FO0CI

At the time of writing this, the expedition was on its way to Clipperton Island in a new three-screw, 88ft aluminium boat - different than the one reported previously. They left San Diego on 28 February. Whilst on the high seas, they were heard on 28, 21 and 14MHz as N7QQ/mm. The activity will start on 7 March and will most likely finish on 15 March. There are three Europeans among the nine operators, and the 14145kHz frequency has been dedicated to the European amateurs. As usual, they will be heard on CW 20 up from the band edges on 10/15 and 20m, and SSB on 14195, 21295, 28495. They planned to be also active on satellites and 6m. QSLs for all contacts should be sent to N7QQ: Charles S Spetnagel Jr, 6327 Carol Ave, Alta Loma, CA 91701 USA.

The Colvins - XW and V85

Iris and Lloyd reports that their operation in Laos was a success with the call sign XW1QL from the shack of Inh XW8KPL, and they made some 1600 QSOs with about 115 countries. From Laos, the Colvins moved to Brunei, where they operated with the call V85KGP.

The Colvins intend to work from at least one more country before they return to the US.

Since they started their DX safari in the mid-late 1960s, they have visited 220 DXCC countries and worked DXCC from most of them.

Christmas Island Indian Ocean - VK8XN VK8XM

Bob W5KNE/VK9XN and Lanny W5BOS/VK9XM had a successful operation from this much-sought-after DXCC country. Their main activity was directed to the US, Japan and Europe, but quite a few VKs made contacts with them when propagation allowed. QSLing should be done to each operator either direct to his home call, or via the W5 QSL Bureau. Do not send your cards to the VK9 QSL Bureau, as it will take some considerable time before the cards are re-routed to the W5 QSL Bureau.

South Sandwich Islands - VP8

According to the latest news, there is no change in the original plan for this very much awaited DXpedition. The dogpiles will be even bigger than with the Bouvet activity. Hopefully, you will be able to work VP8SSI in the period from 21 March to 5 April. It is interesting to note that this island group consists of 11, mostly volcanic, islands situated in the Scotia Sea near Antarctica. Bob W5KNE in the "QRZ DX" Bulletin, gives quite a lengthy description of the island group's background. Here is a summary of it: The islands are situated in the area between 58°18' and 59°28' latitude, and between 26°14'W and 28°11'W longitude. The islands are administered by the UK as a dependency of the Falkland Islands. The DXpedition will be located on Thule Island at the southernmost end of the group. The island's peaks (2700 feet) are buried under an ice cap, but the island itself provides the best anchorage.

The southern islands were discovered by Captain Cook in 1775; the northern islands were discovered by the Russian explorer Fabian Gottlieb Benjamin von Bellinghausen in 1819. The British Government formally annexed the islands between 1908 and 1917.

DX on 160 Metres

As winter approaches in the southern hemisphere, so is the advent of DX contacts on 160 metres (refer to October 1991 issue of AR). The usual DX season starts in April and lasts until about August. The 160m DX fraternity is congregating around the 1832kHz frequency. Opening hours on the west coast of North America start at 1400 UTC in April, gradually decreasing to about 1100 UTC around the middle of June. Bob VE7BS is

looking forward to working you. So do not hesitate, get to work and build that 160m dream antenna of yours.

San Ambrosio Island

Do you remember the XQ0X operation by John CE0ZAM - from 15 December 1990 to 12 June 1991 on San Ambrosio Island? He made 24,154 QSOs on eight bands, all in SSB - there was no CW activity from John in that period. A photograph sent to me by his QSL manager, Mickey CEESS, shows he had very cramped quarters on a three-square-kilometre uninhabited volcanic island.



John XQ0X in his shack on San Ambrosio Island.

Albania - ZA

As mentioned briefly in the March 1992 issue of *Amateur Radio*, the DXCC has finally accepted for credit the Hungarian operations in Albania last year. Here is the full text of the ARRL news release (dated 3 February).

The ARRL DXCC desk in Newington, Connecticut today announced that QSL cards for ZAIHA, ZAIQA and ZAIDX are being accepted for DXCC purposes. Licences for these operations were issued by the Ministry of Culture, Youth and Sport in Tirana. There has been confusion in Tirana over what a radio amateur is, and who has the authority to issue amateur licences. The Ministry of Culture, Youth and Sport and the Albanian Radio Sport Federation support a number of unlicensed radio enthusiasts. The PTT publicly announced the beginning of an amateur radio service in Albania. Further, the PTT has had contacts with ITU and IARU and arranged for training of Albanians in the technical, operating and regulatory aspects of amateur radio.

In the future, the ARRL DXCC desk will

accred. only those operations approved by the Albanian PTT.

No further comments for the time being, except two more questions. The ZAORS contest operation with 12673 QSOs (October 1991) and the other operations (RTTY) of the Hungarians are not yet on the approved list. Will they be in the future? What about the activity of the Albanian club station ZA1FD?

Future DX Activity

- * Herman DL1RBH, alias VK2CCW, 5W1JQ, 3D2JQ and FO0/VK2CCW, advises me that all QSLs for the above expeditions will go out in March. He also says he will be active from March to May in ZS6, ZS3, Lesotho, Swaziland and maybe Mozambique. He will turn up on different nets.
- * Claudia F1NYQ/HB9CUY and Fritz F6IMS/OE6FOG intend to activate Cocos-Keeling Islands on all bands including WARC between 17 March and 6 April. The call signs used will be VK9CL (Claudia) and VK9CK (Fritz). They will take part in CQ WW WPX SSB Contest. QSL to: F6IMS, either direct or via the HB and OE QSL Bureau.
- * According to the ARRL Bulletin, P5, North Korea will be on the air in May; a DXpedition similar to the ZA1A operation.
- * FD1PJQ/ET is active in Ethiopia on 14121. However, it is not known whether he has a legal licence to operate.
- * The call IA1A during April should not confuse you. It is Paul I1RRJ using that call. QSL to his home call.
- * It is rumoured that UT4UX DXpedition to Afghanistan YA5MM has been postponed until April.
- * Look out for a new active P29 operator. Peter HSIAMB will be on the bands for the next year as P29UV.
- * The Hungarian team of HA8IE was very active from T32BW during February and March.
- * Tromelin is rumoured to be active at the beginning of April as FR5ZU/T and FR5AJ/T will be active later on in May.

Interesting QSOs and QSL Information

Note: call sign, name, frequency, mode, UTC, month

- * V73DF-Wayne-21034-CW-0327-Feb. QSL to: W9GW Wayne Warden Jr, 704 Meadowbrook Ave, Bloomington, IN, 47401 USA.
- * 9X5HG-Hartmut-21037-CW-0358-Feb. QSL to: Hartmut Gumpert, BP420, Kigali, Rwanda.
- * FK8GF/50/USA-Alex-14226-SSB-1128-Feb. QSL to: PO Box 3977, Neumea, French Caledonia.
- * V85QG-Iris-21205-SSB-0523-Feb. QSL to: Yasmee Foundation, Box 2025, Castro Valley, CA 94546 USA.
- * CEOFYL-Marco-21260-SSB-0534-Feb.

- QSL to: PO Box 7, Easter Island, Chile.
- * DX2VOA-Jonathan-14225-SSB-1037-Feb. QSL to: W7KNT John D Vugteveen, PO Box 64, Stevensville, MT 59870 USA.
- * XP0C-Mario-14196-SSB-0555-Feb. QSL to: KE1BEF Hector Espinosa Flores, Box 231, Colima 2800, Mexico.
- * EH8URL-Tony-14189-SSB-0608-Feb. QSL to: EA8ZX Alfonso L Hernandez, Box 221, 38085 Las Palmas, Gran Canaria.
- * T26NU-Alain-1422-SSB-0624-Feb. QSL to: F6FNU A Baldeck, Box 14, F-91291 Arpajon, Cedex, France.
- * V85KY-Mike-18068-CW-0912-Feb. QSL to: G3JKY A J Gould, 60 Merlin Grove, Beckenham, Kent BR3 3HU, UK.

RTTY News

Here are a few interesting RTTY QSOs. Note new format: UTC, QRG, call, mode, QSL information

- * 0715-14084-VI150SYD-QSL to: PO Box 1066, Parramatta, Sydney 2124, Australia
- * 2219-21085-HI8AX-QSL to: JAZDLT.
- * 1942-14096-CQ5X-QSL to: CTICIR.
- * 0757-21080-3C1EA-QSL to: EA4CJA.
- * 0023-14085-TASC-QSL to: Box 73, WAR Adana, Turkey.
- * 1853-14086-ZA1TTA-QSL to: Box 66, Tirana, Albania. The operator was Daylan Omeri, who says he is the only one allowed to use RTTY in Albania, and he states that his operating time will be from 1400 UTC to 0000 UTC on most days.
- * 1815-21093-A92DQ-QSL to: Box 33716, Isatown, Bahrain.
- * 1510-21085-WD3D/WHO-QSL to: JF2KOZ.
- * 0001-21090-T30NY-QSL to: Box 80, Meguro, Tokyo, Japan.
- * 1637-21085-S79PDL-QSL to: Box 448, Victoria, Seychelles.

From Here and There and Everywhere

- * The Maly Vysotskiy Island (MV Island) cards from the third DXpedition in May 1991 have arrived in VK. For those who do not know, MV Island is located in the Gulf of Finland on the Baltic Sea within Russian Territory (60°38' north, and 29°34' east). The island was leased to Finland in 1962. Its DXCC status was established in 1970 and re-affirmed on 17 November 1988.
- * According to Bill VK4CRR all the XY0RR Myanmar DXpedition cards were posted at the end of February. Rumour has it that Romeo might visit VK4 in May this year. The special event station VK4VD cards will be posted mid-March.
- * Karl P57KM, who is the QSL manager for the PY0SK operation, advised Austin VK5WO that there are problems with the cards of PY0SR (CW) activity, St Peter and Paul's Rock, May 1991. Those VK

amateurs who are still waiting on their PY0SR CW cards should contact Austin VK5WO for help. Send all details to Austin Condon, 25 Mill St, Laura, SA 5480. Karl P57KM also advised that the Brazilian Telecommunication Department has cancelled Jaime Dorneles PP6JD call sign and licence on 3 January 1992.

- * With the dissolution of the former Soviet Union, the Amateur Radio League of the Republic of Kirghizstan came into being (ARLRK), and cards directed to UM amateurs should be sent to their new bureau: PO Box 1100, Bishkek, 720020 Kirghizstan. This advice was received from UM8DMX, who is the President of ARLRK, via the VK4 QSL Bureau from VK4FIX.
- * The Annabon August 1991 DXpedition cards started to arrive from QSL Manager EA3CUU. The attractive card shows the seven Spanish operators of the Garrotxa Amateur Radio Club and a beach scene of the island. There is also a detailed description of the historical background of the island but, unfortunately, it is only in the Spanish language.
- * Jim Smith VK9NS says he has been informed that the legislation introducing the amateur radio service into Bangladesh has been examined and passed by the various sub-committees, including internal security, of the Bangladesh authorities. There is now a well-based hope that amateur activity could start from that country soon.
- * The *International Callbook* lists only those Polish amateurs who are members of the PZK (The Polish Amateur Radio Association) but all SP amateurs can receive QSL cards via the PZK QSL Bureau. SP0 calls are for special events in Poland.
- * Talking about the 1992 edition of the *International Callbook*, turn to page 1528. You will see the caption V7 Marshall Islands, but listed underneath are the amateurs of Brunei V85. The V7 Marshall Island listing is missing. Or is it missing only from my book? What does the publisher of the *International Callbook* intend to do about it?
- * The address of the YL QSL Bureau is: Box 164, Riga, Latvia 226098.
- * We do know that using the QSL Bureau service is a relatively inexpensive, but slow, method of exchanging cards. However, sometimes the system gets lost in its own sorting boxes. Lately I received quite a number of QSL cards from the Bureau which were for contacts made, six, five or four years ago. Who knows where these cards had a long period of rest? Which one of the two bureaus has too many sorting boxes? Incidentally, among the latecomers was one from 9K2KL for a QSO which we had in September 1988. The confirmation is not a card, but a beautiful computer-generated and graphics-enriched

impressive certificate.

- * DXCC has turned down the application to grant a separate DXCC country status for last year's activity from the Holy House under the call HV0HH.
- * The Visalia International DX Convention will be held in California USA from 10-12 April.
- * As from 1 April, Denmark OZ will allow its amateurs to work SSB on 160m between 1830-1850kHz, and CW from 1820-1850kHz.

Thank You

Thank you to all my contributors, your help is greatly appreciated. Many thanks to: VKs 2DID, 2KPU, 2GS, 4CRR, 4FIX, 4SZ, 5WO, 9NS, and CE3ESS, DL1RBH, VE7BS, 9X5HG, and the following publications: QZZ DX, The DX Bulletin and the DX News Sheet.

QSLs Received

Note: W-week; M-month; Y-year; FM-from; MGR-manager and its call; OP-operator and/or its call.

Direct QSL cards received:
 9H1EL (11M FM MGR LA2TO), VK9YJ (9M FM OP), 9B8CF/3B7 (3M 2W FM OP), 9B8CF (3M 2W FM OP), 9M8ST (10M FM OP), 4J1PS (9M FM MGR OH2BU), 3OCOW (6M FM MGR EA3CUU).
 Bureau Cards received: P72CI (6Y FM OP), HS0B (5Y FM OP), 9K2KL (4Y FM OP), C1E1HK (4Y FM OP), GM4CKM (4Y FM OP), HC5AJ3 (4Y FM OP), LS8E (4Y FM OP), V188ACT (4Y FM OP), C31LEK (4Y FM OP), XQ5SM (4Y FM OP).

Good DX and 73

A Call to all Holders of a Novice Licence

Now you have joined the ranks of amateur radio, why not extend your activities?

The Wireless Institute of Australia (N.S.W. Division) conducts a Bridging Correspondence Course for the AOCOP and LAOCOP Examinations.

Throughout the Course, your papers are checked and commented upon to lead you to a successful conclusion.

For further details write to

The Course Supervisor
 WIA
 PO Box 1066
 Parramatta NSW 2124
 (109 Wigram Street, Parramatta)
 Phone: (02) 669 2417

11am to 2pm Monday to Friday
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VHF/UHF - AN EXPANDING WORLD

ERIC JAMIESON VK5LP - PO Box 169 MENINGIE 5264

All times are UTC

Australian Amateur Bands

Band	Frequency	Band	Frequency	Band	Frequency
160m	1.835-1.850	10m	28.0-28.5	2m	144.0-146.0
80m	3.5-3.8	6m	50.0-54.0	1.8m	144.0-146.0
40m	7.0-7.3	4m	70.0-70.5	1.3m	144.0-146.0
30m	10.1-10.5	3m	101.0-101.5	1.1m	144.0-146.0
20m	14.0-14.35	2m	144.0-146.0	70cm	430.0-435.0
15m	21.0-21.45	1.8m	144.0-146.0	33cm	900.0-930.0
10m	28.0-28.5	1.6m	144.0-146.0	23cm	1240.0-1300.0
6m	50.0-54.0	1.4m	144.0-146.0	17cm	1710.0-1790.0
4m	70.0-70.5	1.3m	144.0-146.0	12cm	2425.0-2445.0
3m	101.0-101.5	1.1m	144.0-146.0	9cm	3300.0-3360.0
2m	144.0-146.0	90cm	330.0-335.0	6cm	5050.0-5150.0
1.8m	144.0-146.0	80cm	360.0-370.0	5cm	5650.0-5850.0
1.6m	144.0-146.0	70cm	430.0-435.0	4cm	7000.0-7100.0
1.4m	144.0-146.0	60cm	490.0-500.0	3cm	9000.0-9100.0
1.3m	144.0-146.0	50cm	560.0-570.0	2cm	12400.0-12500.0
1.1m	144.0-146.0	40cm	720.0-730.0	1.5cm	19600.0-20200.0
90cm	330.0-335.0	30cm	900.0-930.0	1.2cm	24250.0-24450.0
80cm	360.0-370.0	23cm	1240.0-1300.0	1.1cm	27450.0-27650.0
70cm	430.0-435.0	17cm	1710.0-1790.0	1.0cm	29700.0-30300.0
60cm	490.0-500.0	12cm	2425.0-2445.0	0.9cm	3300.0-3360.0
50cm	560.0-570.0	9cm	3300.0-3360.0	0.8cm	3600.0-3700.0
40cm	720.0-730.0	6cm	5050.0-5150.0	0.7cm	4000.0-4100.0
30cm	900.0-930.0	5cm	5650.0-5850.0	0.6cm	4300.0-4400.0
23cm	1240.0-1300.0	4cm	7000.0-7100.0	0.5cm	4600.0-4700.0
17cm	1710.0-1790.0	3cm	9000.0-9100.0	0.4cm	4900.0-5000.0
12cm	2425.0-2445.0	2cm	12400.0-12500.0	0.3cm	5200.0-5300.0
9cm	3300.0-3360.0	1.5cm	19600.0-20200.0	0.2cm	5500.0-5600.0
6cm	5050.0-5150.0	1.2cm	24250.0-24450.0	0.1cm	5800.0-5900.0
5cm	5650.0-5850.0	1.1cm	27450.0-27650.0		
4cm	7000.0-7100.0	1.0cm	29700.0-30300.0		
3cm	9000.0-9100.0	0.9cm	3300.0-3360.0		
2cm	12400.0-12500.0	0.8cm	3600.0-3700.0		
1.5cm	19600.0-20200.0	0.7cm	4000.0-4100.0		
1.2cm	24250.0-24450.0	0.6cm	4300.0-4400.0		
1.1cm	27450.0-27650.0	0.5cm	4600.0-4700.0		
1.0cm	29700.0-30300.0	0.4cm	4900.0-5000.0		
0.9cm	3300.0-3360.0	0.3cm	5200.0-5300.0		
0.8cm	3600.0-3700.0	0.2cm	5500.0-5600.0		
0.7cm	4000.0-4100.0	0.1cm	5800.0-5900.0		

Ted Collins G4UPS. Whilst we in VK get our openings, most of the news is certainly centred on the northern hemisphere where there are so many active countries. Ted reports.

The official start-up date for Czechoslovakia was from 0001 local time on 15/12/91 on 50-52MHz with a maximum power output of 20 watts to a horizontally polarised antenna. Arnie CO2KK from Cuba is active, as is Bill C6A/KM1E from the Bahamas. It appears that OE6XHF is the only 6m station in Austria. (However, despite that statement, a number of other OE stations have been worked in VK during the past week or so ... 6LP). OE5XHF is a club call sign with the address, VUES, Sausal 50, A-8444 St. Andras, Austria.

Polish stations (SP) may receive permission to operate on six metres by April/May; Rich SP3CUG is ready to operate, can run 20 watts, but speaks poor English! Joe EA4CGN anticipates that the first EA 6m permit will be issued sometime between April and June 1992.

QSL info for Ivan YT3ET is Ivan Nanut, Cankarjeva 76, Nova Gorica 65000, Slovenia, Yugoslavia. Brian 9H5ET QSL to Brian Cole, 140 St Mary Street, Zejtun, Malta.

The activity on six metres for January 1992 reported by Ted G4UPS runs to more than four closely typewritten pages - it really is staggering what is available to be worked or heard from the UK. It seems Ted's 6m day starts around 0900 UTC, which would also be their local time, and usually continues for eight to 10 hours or more on almost a daily basis. Regular signals are available throughout the day from all over Europe and, from time to time, to the Caribbean, USA, Canada, Africa, South America, Japan, Hong Kong and Australia. The information I gather seems meagre by comparison. I suppose the man eats!

Here is some of the best of Ted's reporting. Geoff GJ4ICD reported similar listings, and these were included last month. However, there is a variation between the two reports indicating the differences between two locations of the UK. 1/1/92: 0945-1945 - OH, DU, KG6UH, LY2RW, ES5MC, VE1XDX, W1, F6, OE, SM, IK2, YU3, YT3 2/1: ZP1EL, FY7THF/B, P43FM, KP2A, 3/1: FY7THF/B, DL, OZ, PA, ON, YV5Z, 9H54Z, ZB2VHF/B, DJ, CN8ST, ZBOT, K4CKS, I7C, KM1E/C6A, W, LY2WR. 4/1: 0935-2100 - meteor scatter to DL, OZ, SM Then via Es to SM7, FC1JG, IK9, OZ9, HC1BI, KP2A, OK, DK, PA, PE1ILY, OE5, C6A/KM1E, K4SC, ON, YU, K9APW, N7JJS, K5UR, CO2KK, N5VC, ZB2VHF/B. Many contacts via a large Es opening.

6/1. 0900-1930 - VK3OT, VK3LK, ON, FY7THF/B, VE1ZZ, CU1EZ, SM7, W1EP, W8, PA, OK, OE, DL, ON, YU, IK2, K9HMB, W8OV, K8EI, K8EFS, W2RHQ, N4KWV.

Beacon Notes

I regret an error occurred in the February issue where I said the only 70cm beacon in VK3 was VK3RMB. A letter from Ian Glanville VK3AAQ assures me that VK3RAI is still operating in Melbourne and has done so from the QTH of his father Neil VK3AAQ for many years, at their own expense. The beacon is re-listed above. Sorry about that!

New beacons reported by G4UPS are CUSURA/SIX from the Azores on 50.014 in HM68 square. Also DX1HB/B from the Philippines with 20 watts on 50.008 in square PK04. GB3LER is located in the Shetland Islands and runs 45 watts to a dipole. The beacon is FSK, 24 hours, in square IP90JD and the keeper is GM4IPK.

Six Metres from Europe

Another valuable and lengthy report from

K0GJX, W3WFM, K1NDF, W5FF. In all, worked W2, 2, 3, 4, 5, 8, 9, 0. Es commenced 1627. 7/1: VK3OT, VK3LK, HC5K, HC5K, YV4AB, VE1YX, KE9I, P43FM, W3JO, W2BXA, K1JRW, VE3RM, 9H1, K5CMM, N6CA. 11/1: 0920-1614 - HC1BI, VEYX, W2CAP1, C02KK, PA, W2LT, NAAR, W5OZI, KE8F, V2EDFO, W3ZZ. 12/1: V58BG works YU, CN8 etc. 14/1: In band TV from 9M, BV. 5B4CYB, 18/1: 1227-2020 - ON7, P21EL, F7YTHF, P43FM, YU3, 4N3SIX, I4C1, C70WVB, C71BH, ZB2VHF/P, CN8ST. 20/1: Southern Florida to YU, OE, OK and I.

21/1: 5V7JG keyer, F, ZB2VHF/B. 24/1: 1218 ZS6AXT working OE and 7Q7RM hearing V51VHF/P. CN8 into W. 26/1: 0825 DX1 beacon into Italy along with V58BG, 0825 UL7GCC into OZ, OH, 28/1: 0825 in band TV from Russia, UL7GCC/P, F8IH, VK6PA, ON, VE to I, VE1YX, W3EP1, W to LA, SM, I, YU, DL. Working 223JG/7Q7, 29/1: UL7GCC/P, JA7 into YU, YU to V58BG, VK6 and VK8 to ON, 9H and I stations hearing OX3 beacon strongly, K1JRW. 30/1: GI hearing 5B4 beacon, SV1EO and VE1YX hearing F7YTHF. 31/1: 4X1IF, 5B4CYB both 5x9, P77CB, S01A, OD6SK, VK6JQ.

The above paragraphs have included only one callign from an area; many times there were multiple contacts. The latest list (31/1/92) of countries worked from the UK now stands at 130. I note that Geoff GJ4ICD has now worked 119 countries and confirmed 115, has DXCC #33 and over 500 grid squares with 450 confirmed.

Geoff GJ4ICD, with additional information, said that on 28/1 he worked V58BG at 599 and heard XX9JN. On 29/1 heard UL7GCC, but no QSO. RA3TES was worked by UK but he told UK amateurs he was not permitted to transmit! 29/1: Strong Es from 0830 to SM, YU and the USSR. F2 provided video from 9M2. At 1044 GJ4ICD worked UL7GCC/P in MN89KB for a possible first British Idles QSO, with the UL7 remaining in GJ for nearly two hours. The mode appeared to be multihop winter Es for a distance of 5843km. The Es then fell into the TEP top end path and produced VK6PA at 89+ for 30 minutes. CU1EZ worked UL7GCC/P and OK via Es about the same time.

8 February 1992

That date deserves a special mention as it provided what appears to have been one of the longest and most widespread 6m openings between Australia and Europe, up to five and a quarter hours in some places. There were intense sun flares on 3/2, followed by auroral openings on six and two metres during the late afternoon and early evening. 8/2 Scattered throughout the day there had been Es openings to VK2, 4, 6 and 8. From 0130-0215 a TEP opening to Japan. Many video carriers were audible between 48-50MHz during the late afternoon, so the warnings were there.

The following will give readers some idea of

the coverage at both ends, and I thank those operators who have responded to my requests for details of their contacts. From information on hand it seems that Steve VK3OT started the ball rolling in the south/south-eastern area of the continent by working OGZAA at 0740. Then followed OH, SM6, OZ, PA, DK, LX, OK, F6, ON being 43 contacts (34 on CW) in 10 countries and finishing at 1055. Many signals were 5x9. At 0826 LA9ZU reported hearing VK3OT, but no contact eventuated. Ray VK3LK south of VK3OT had 20 contacts for five countries. In Melbourne, Arie VK3AMZ around 0825 worked DL, OK, OZ and OH, while VK3AZY, VK3BDL and VK3AMK heard a few weak signals, but did not work any. There was a report that Ian VK7IK had worked a PA, but this is unconfirmed.

In Sydney VK2FLR, VK2BA, VK2VC and VK2GLS were able to work ON, OZ, DL, PA, G3 and F1. Further north, VK2QF worked some. Further north again, no stations appear to have been worked in Brisbane.

Between 0755 and 1159 Col VK5RO in Adelaide worked SM, DK, OZ, G3 and ON for 18 contacts in five countries. He said there were some very strong signals from Europe, but at times it was impossible to work them due to local QRM from so many stations operating simultaneously. Hugh VK5BC started at 0750 with DL7ARM, followed by OK, OZ, G3, SM, PA, ON, OK, OE, IK, GJ4, F6 for 55 contacts in 12 countries, the last at 1200. Fifty-three contacts were on CW. It is not known whether the band opened to Mount Gambier as Trevor VK5NC was not home that night.

David VK5KK in Adelaide worked 41 stations in eight countries comprising DL, PA, G, GW, SM, ON, OH, OZ between 1120 and 1210. Signals varied from 5x5 to 5x9. The band was open to VK8 at the same time, and it seems the contacts into the Adelaide area were assisted by Es from Alice Springs. David said it was utterly confusing, there were so many stations calling together that he could select only certain stations from the dopplers.

Also in the Adelaide area, Mark VK4EME worked OZ5JL at 1141. Others to work a number of stations were VK5ZDR, VK5ZBK, VK5DX, VK5RQ, VK5AFO, VK5AKM and VK5NY who had 20 contacts in four countries comprising SM7, OZ, OH and D from 0826. VK5LP heard absolutely nothing!

Don VK6HK in Perth commenced at 0830 with DL, then SM, OH, OZ, G, GI, GM GW and PA, being nine countries from 74 contacts over a period of five hours. He worked 44 stations in G alone. Most were on CW. John VK6J, also in Perth, had 130 contacts for 14 countries, which included EI as a rare one. It is interesting to note that Steve VK6PA at Karratha had only 10 contacts on 8/2, instead of the nightly 100 or so. It appears most of the signals were going over him to Alice Springs and points beyond. At Broome, in addition to VK6JQ who has worked many Europeans,

there is now VK6RJ, and further inland at Mount Newman a newcomer is VK6YCF - both of these stations have been working to Europe.

Graham VK6RO in Perth between 0814 and 1330 worked 71 stations in 12 countries, being SM, OH, LA, OZ, GM, GD, GI, GW, G, EI2, PA and DL. He said there were incredible pile-ups in return to his calls and dozens of stations were 59. He worked 40 stations on SSB, 23 on CW, and eight on FM, the latter all being G stations. He had what is believed to be the first VK to Europe FM QSO when he worked GQJHC on 50.250MHz at 1154, with signals 5x9 both ways, and duly makes that claim in the absence of earlier claimants.

Graham VK6RO said he had a mains power failure between 1025 and 1130, but managed to work two new countries using 10 watts with power from a car battery and operating by candlelight! He also heard UK beacons on 50.000, 50.060 and 50.062, and OH1SIX on 50.060, but all were weak.

Peter VK8ZLX in Alice Springs had more than 60 contacts in seven countries, comprising OH, SM, PA, I, OE, OZ and HB9, which was a rare one. Also involved with many contacts was Jeff VK8GF.

Below a line across the centre of Australia, in the regions comprising Perth, Alice, Springs, Adelaide, Berri, Hamilton, Melbourne and Sydney, the spread of countries appeared to be DL, EI, F6, G, GD, GI, GJ4, GM, GW, HB9, IK, LA, LX, OE, OG, OH, OK, ON, OZ, PA and SM. There may have been others not reported to me, but this is a total of 21 countries available, but no one worked them all. Also worth observing is that all those worked were in the regions of central Europe and further north; absent were such areas as ZB2, 9H1, IS0, YU, 5B4M, SV etc. there were many G stations, but few from France.

Does Six Metres Ever Close?

It would appear not. To prove that, it is interesting to take a brief look at the log of Steve VK3OT over the past three months. 23/1: JA1, W6, W7. 24/1: VK4, KH6, JA8. 26/1: G3, JA6, NJ7. 3/12: VK7, 4/12: KH6JEB/KH7, JA2, 3, 5, 7, 8, 0. 5/12: JA2, 8, 7/12: VK4, 8, 24/12: VK8, IS0. 25/12: IK, SM, IS0. 26/12: JA1, 2, 7, 8, VK8. 29/12: KH6. 30/12: V73AT 3/12: 3D2, ZL1, 3.

4/192: ZL1, 2, 5/1: FK8. 6/1: OK3, OH3, OG1. 7/1: OH2. 8/1: W4. 9/1: JA1, 7, 8. 10/1: JA1, 4, 6. 19/1: ZL3. 21/1: ZL2. 23/1: W6, FK8. 29/1: JA2, 4, 0. 3/2: VK7. 8/2: As reported above - 43 contacts to Europe in 10 countries. 15/2: ZL1, 3, 4, SM7, DJ, OZ3, OK, OZ, PA. 18/2: OK, SM, OZ, End of log copy. Many of the prefixes involved multiple contacts. Further contacts to Europe have been made since on 19/2 and 20/2.

Hugh VK5BC reports various Es openings between 28/1 and 31/1. On 1/2 he worked OH2BC and OH2TI 5/2 OH2, OZ1, SM7, DL8, G3, JG2. 8/2 As reported above. 10/2:

VK4. 11/2: 0032-0040 TI2NA, TI2HL. On 5/2 Col VK5RO started at 0950 by working two JAs, then at 0952 ON4ANT, OH, GW4, SM7, DL8, G for six countries and nine contacts, finishing at 1120. Col said the European stations were being received over a wide swing of the antenna, from north to west, with the strongest being received from the north.

On 16/2 John VK4ZJB phoned to say that at 0944 he worked GU7DHI on Guernsey Island for the first time. Signals were to 5x7. John said anyone QSLing Guernsey should send him two green stamps, as postage from there is very costly. His contact has been confirmed. On 15/2 in Brisbane, G8VR, G4FUF, G4AAN, GJ4ICD and another were worked by VK4APG and others with signals to 5x9. Peter VK8ZLX at 0843 on 23/2 received a surprise when he worked ES6QB in KO37, at 0952 he worked FC1, ES5PC and ES5MC, the latter using 1.5 watts, hence the 5x1 report! In between he worked DK, OH, GJ4ICD, GO, G3, JR1 (who persisted until worked!), PA, F6, DL and ON. VK9GF worked F6, OE5 and others. Amongst the Europeans they heard KG6UH/DU1.

15/2 was another good day around the country. VK6PA worked 153 Europeans in 18 countries! (VK6PA worked more than 100 stations on each of consecutive nights 17, 18, 19/2). VK5NC in Mount Gambier, between 1044 and 1144, worked PE1, DL8, SM6 and VK5EE worked on SM6.

The same day VK3LK at Portland worked SM6, OZ4, OH3, SM7, OZ1, OH5, OZ3, SK7, DL8, PA2, DK2, DK9, PA0 and DK8. 17/2. VK3AMZ worked 25 stations. VK5NC worked two. VK3LK from 0849 worked OZ7, SM7, OZ8. Don VK6HK said that in Perth there had been openings to Europe on 17, 18, 19 and 20/2 and stressed that the use of CW was an important factor in making contacts. 16/2: In Sydney, Mike VK2FLR said 14CIL, 14XCC and YU3ZV were worked on SSB from 1030, and on 18/2 he worked 14CIL and IK4DRY at 1025 during an opening which lasted 90 seconds! Geoff VK3AMK said on 18/2 two DLs were heard, and he worked a DK 529 at 0824. Also on 18/2 VK3DUT worked an LX1 at 5x9. When does it stop!

Mike VK2FLR comments that there are considerable difficulties working DX from a large city like Sydney. Operators have to contend with a high overall noise level which requires the use of a noise blander which, because of the "holes" it punches in the signal, gives it a peculiar sound, tending to make the signal less readable. The more efficient the noise blander, the more problems it causes with cross modulation from other strong nearby signals.

However, despite the QRM, Mike considers Sydney has had its fair share of European contacts, beginning on 14/10/91 and continuing on 27/11, 8/2/92, 16/2 and 18/2, when contacts were concluded. There were three other occasions in November when signals were heard only. On 29/1 VK2ZXC was heard at S9 in Holland and Belgium.

Two Metres and Above

The Adelaide gang is around most nights on 144, 432 and 1296. Some even venture on to 2304MHz. Mark VK5EME hears David VK3AUU on 144 most mornings, but has difficulty in completing contacts as David cannot always hear him. VK3AUU advises there is EME activity on two metres every fourth weekend, eg 11-12/4, 9-10/5, 6-7/6, 4-5/7 etc.

An aurora on 21/2 allowed fairly widespread contacts. From 0618 VK3BDL, VK3AZY, VK3LK, VK7ZJ amongst others were observed here. Col VK5RO also said 21/2 was a good night with Es providing not only 6m contacts into Perth, but two metres as well. John VK5PO, north of Adelaide at Kapunda, supports this and reports working, with some auroral assistance, at 1048 VK6QB at Busselton 5x9+, 1052: VK6LD Katanning 5x9+60, 1046: VK6YVJ Busselton 5x9+60, 1054: VK6AJX Esperance 5x4, all on 146.500 FM. At 1125 he worked VK5KCX at Gawler, 35km south of Kapunda, via the Kellerberrin repeater on 147.325 – a long way round for a short cross-country contact! Other repeaters heard at 5x9 or better were Bunbury VK6RBY 146.900, Busselton VK6RBN 147.350, Albany VK6RAA 146.825, Perth VK6RAP 146.700 and other Perth repeaters. All these were

worked from his home. Barry VK5KCX at Williston near Gawler worked Richard VK6FKB at Booragoon, a Perth suburb, on 146.525 FM.

John VK5PO says he has had considerable success from his portable site, Bethel Hill lookout, 7km south-west of Kapunda and about 450m above sea level. All have been on 144 100 unless otherwise indicated. 22/12, 1334: VK6BE Albany 5x7, 2145 VK3CY Wedderburn 5x9 23/12: 1050 VK5MC Millicent 5x9, 1112 VK5ACM 5x9+, 1923-2204 VK3ECV and VK3JAW, both at Mildura 5/3-4 on 146.5 and 439.0 FM.

21/92: 1219 VK5ZVA Whyalla 5x7, 4/1: 0949 VK5MC 5x9, 0957 VK5KAF 5x1, 1027 VK5EN Cummins 5x9+, 1049 VK5ZDS/5 Cummins 5x9+, 10/1: 1180 VK5AKK/P Kangaroo Island 5x3, 1133 VK5AKK/P 5x2 on 432.1 FM, 1144 VK5NC 529, 1154 VK5ACY 5x9+, 11/1: 0849 VK3CY 5x2, VK3BBB/P Mt Skene 5x9+, VK5AKK/P 5x9, 1027 VK3AOS Horeham 5x5, 1038 VK5LP Meningie 5x9, 1045 VK5DK Mount Gambier 5x5, 1056 VK3III/P Gramplains 5x9+.

Roger VK3XRS reports a few notable contacts. On 8/11/91 he worked VK2ZAB on 432MHz via aurora. 11/1/92 VK3XRS worked VK3ELV Wangaratta on 1296 SSB running two watts into a 2m dish. On 8/2 he worked VK1AU, VK1VP, VK1BG, VK2ZRE via air-craft enhancement – with 12 watts into a 12m-long yagi.

Closure

By the time you read these notes we should be enjoying the DX on six metres that only the equinox can bring. Watch out for Central American and Caribbean stations from 2200 onwards and probably South Africa from mid-April around 0400 onwards, and more from USA in May.

Closing with two thoughts for the month: "The best motorist drives with imagination: he imagines that his family is in the car", and "The best cigarette filter is the cellophane on an unopened packet".

73 from the Voice by the Lake ar

POUNDING BRASS

GILBERT GRIFFITH VK3CQ - 7 CHURCH ST BRIGHT 3741

I have been having these nasty mental blocks lately when trying to do the writing for this column, and catch up on some of the mail at the same time. The first letter is from Jean VK2NP, and she says:

"I agree Morse code is another 'language' and, on hearing 'dits and dahs', one automatically listens to it. Operators do develop a style, which is easily recognised.

My initiation to Morse was early in the

WWII years (March 1941) when volunteers were called for to learn and attend classes at the then Fort Street Girls' High School, now the National Trust Building in Sydney. On reaching 20wpm sending and receiving, we sat for a test held at the RAAF recruiting centre and, on passing a medical were accepted into the WAAAF as a wireless operator and sent to No 1 WAAAF Training Depot in Melbourne. Some time later they changed the

mustering to "telegraphist". We tuned in our sets in front of us, but always had RAAF radio mechanics not far away. In August 1941, after our "rookie" course in Melbourne, the signals operators were sent in to the Marconi School of Wireless in the city (Melbourne) to learn the RAAF procedure in a signal office. Printing figures and letters clearly was of the utmost importance so that the cypher office could decode the information quickly. Being stationed at Air Force headquarters in St Kilda Road, Melbourne, accuracy was the key word. We realised this more when the bombs dropped on Darwin, the Coral Sea battle and the fall of Singapore.

On discharge at the end of 1945, the Morse took a back-seat so to speak, but was not forgotten. Thirty-five years later I was encouraged to learn and sit for the amateur radio licence. Morse and the regs were never a problem. It was a long time since I went to school. After several attempts, I achieved the novice licence and am now enjoying Morse communication with people near and far. The Morse will get through most times when voices fail to be heard."

The second letter, from "Doc", may be of some interest as well. Here it is. From "Doc VK4CMY VK5HP".

"... Licensed in 1975, and an ex-Navy telegraphist, I have worked QRP CW exclusively. Apart from a break of some years for professional studies, my on-air activity included successful international contesting on 20 metres. December 1990 I resumed these activities in Whyalla and, six weeks ago, relocated to Warwick (Q). During that time, I have used a Ten-Tec QRP transceiver; groundplane 5/8 groundplane, three-element Yagi and four-element quad to notch up 200+ DXCC on 5W input, 140 DXCC on 1W input, and 42 DXCC (so far) on 500mW input. Since 1975, I have made some 9000 QRP QSOs on 20 metres. One hundred countries were worked using 5W input in 40 days - without living for amateur radio. We don't have a QRP column in AR (or ARA) unfortunately, and although I sent my log extracts to VK9NS for a few months, they were published only once. I was hoping that continued exposure might cause others to contribute. Although I wasn't sure whether to send this information to you or to 'How's DX?', guess you drew the short straw hi. Having commenced QRP activity from this area on 18/1/92, in the first month the following QRP/QRP QSOs took place on 20 metres:

JAGOP	0930 UTC	SMSCLE	1333
R00CV	1005	N9SW	1345
EAS/DJGX/P	1008	JA3WFG	1411
JG2EHE	1114	SMSACG	1950
VK8CV	1237	PA3BBV	2051

(This sounds like one day's work ... Gil)
And the following represents the total types of DX worked this month on 20 metres (no contests involved):

04AAWE	F0SF0	4K3JIA10LM	7L1KPV
KJF8S/SOUSA	AA7LUN/HO	T30RE	CP6UH
12HJF	CT1DRA	UW1ZCJ/NW	VE30CP
LY1CX	PY5FA	KP2BL	HL9TK
F8BG	G3KOV	KH5J	J17AB
J1TAA	BY8AC	YWSM00IG	BV4AO
ZP6CW	UA1OE	U06GG	457CF
VU2NJA	AC4KD/U1	V73CT	UA0WG
UL7JG	S8RGW	W2BA	VK + ZL

OZ4UN, SK7AX, 3D2QB and Tim, VK3IM/M worked for 70 minutes while he drove home to Mt Eliza!

Yes QRP is alive and well on CW. Keep up the good work.

73 de Doc"

I notice that "Doc" is a member of the CW Operators QRP Club (#221 on my membership list), so I can only recommend that you ask the editors of both AR and LO-Key if they are interested in printing a column on QRP CW that you will send in each month (or whatever).

The last letter only just arrived at the beginning of the month, and comes from Renawk VK4FUL, who says:

"... You might recall seeing a documentary about an American amateur with a recumbent bicycle full of computers and radios connected via satellite etc. It was on TV a year or two ago. Well, I am what might be called the equivalent in Australia, but in a somewhat different manner.

My transportation is in the form of a recumbent tricycle with the front wheels steerable; the frame has space inside the tubing for

three banks of 10 "D" size nicads, giving about 3.5 amp hours at 12 volts. Power is further supplemented by the use of an alternator connected to the rear wheel drive and a 30W solar panel.

I am presently touring outback Queensland and using a home-brew rig on 160 metres with a power output of five watts (at 13.0 volts). My antenna system consists of 500 metres of steel wire, commonly used on control-line model aeroplanes, a small electric winch (a recycled cordless screwdriver) and a Cody design kite of 2m span.

When I am touring downwind the pull of the kite is balanced by the drag of the alternator, otherwise the trike would travel too fast and the kite would fall down. Operating on one band makes it unnecessary to have more than a simple tuner for the long wire, and reception is excellent.

I have already tried all the other bands and am looking for more of a challenge, hence top band is now the way to go. It is quite common for me to work 100 countries on CW in a day's riding, when I would usually cover about 150 miles. (Top-banders don't use kilometres!) Unfortunately I don't have any way of logging the calls as I have my hands full steering the trike and operating the paddles of the keyer, although when the conditions are right I can steer with my feet, but then I usually use my other hand to hold a stubby (the trike has a small electric fridge).

Anyway you can get confirmation from anybody on top band because they all know me. I don't care for paperwork anyhow. Don't bother to QSL either.

73 and cheers, Renawk."

That's all I have time for this month, Morsiacs, so 72 and 73 from Gil VK3CQ.

III

AMSAT

BILL MAGNUSSON VK3JT - 359 WILLIAMSTOWN RD YARRAVILLE 3013

PACKET VK3JT @ VK3BBS

National Co-ordinator

Graham Ratcliff VK5AGR

Please take note of the AMSAT information nets:

AMSAT AUSTRALIA net:

Control station VK5AGR

Check-ins commence at 0845z on Sunday nights

Bulletin commences at 0900z

Frequencies 3 685MHz or 7.064MHz. At present 7 064MHz is used.

AMSAT SW Pacific net:

2200z Saturday on 14.282MHz.

Experienced satellite users and newcomers alike are welcome on the nets. A large body of experience is on hand to answer queries. Listen to the WIA Divisional broadcasts for regular AMSAT information.

AMSAT Australia Newsletter and Computer Software:

Satellite users, whether experienced or newcomers, will benefit by subscribing to the AMSAT Australia newsletter and software service. The newsletter is published monthly by Graham VK5AGR. Subscription is \$20 payable to AMSAT Australia, addressed as follows.

AMSAT Australia

GPO Box 2141

Adelaide 5001

The newsletter provides up-to-date information on all current and planned satellite activity. Graham also provides a first class software service for satellite users. New software is reviewed regularly in the newsletter.

Computer time setting service:

At the time of writing a new Telecom service is undergoing operational tests in Melbourne. It will be similar to (but not exactly the same as) that provided by the National Bureau of Standards (NBS) in the USA. It will enable users equipped with a telephone modem to update the clock in their computer automatically. You'll be able to access the service through a routine which can be called up at will or can reside in the auto-exec file. Since most "modem" computers have notoriously inaccurate clocks, this service should prove popular with regular satellite operators. If you run an auto-track program to control antenna pointing, you need to (1) set your antenna system accurately to true north and level, (2) regularly update your kepe, and (3) make absolutely sure your computer clock is accurate in the long term. Until now this has meant doing it the hard way or buying a high stability clock card. The popular program Instanttrack has a routine to do this by

accessing the NBS service. You can do it this way if you like for the cost of a brief ISD call. The new Telecom service will mean you can update your system more regularly, say once a week or month, at relatively low cost. Unfortunately, the Telecom service uses a slightly different format than the NBS service so the routine already in IT won't work as is. It should be possible to write a short routine to read in the auto-exec file, and I know of a couple of people working on this already. It's probably better done this way rather than modifying the routine in IT. The TZ variable can be included in the bat file and you'll never have to worry about resetting TZ each time we go to and from daylight saving time. There appears to be a bug in the readout at present with the year field containing an intermittent error in the first two digits. No doubt this will be fixed in the testing phase. The service is as yet unnamed, but it will receive wide publicity when it comes on line. It was mentioned briefly in the columns of *Your Computer* magazine for February, so you can bet there will be a suitable routine published in that magazine before long.

Attention UoSAT-2 Users:

Surrey University is looking for reports from users of this satellite. I know of a couple

of teachers using the signals from UoSAT-2 as part of their class studies. If you know someone who uses UoSAT-2 regularly (or even occasionally), please ask them to send in a report. It seems the UoSAT team is evaluating the service provided to educators on UoSAT-2. With a lot of effort being put into the development of UoSAT-Oscar-22 it would be a shame to see the good simple experimental data on UoSAT-2 downgraded or even discontinued. If enough interest is shown I'm sure the team will continue to provide this service.

New Satellite in the RS Series:

Sketchy reports are coming in about a new RS satellite. To be known as RS-15, it will be placed into a 2000km orbit. Neither its launch date nor any other details is known yet, but an orbit that high will be very interesting. An exact 2000km orbit should result in an orbital period of approximately two hours and seven minutes, and a mean motion of only a little more than 11.3 revolutions per day. It should result in access times of half an hour for an overhead pass, and a greatly extended footprint area. Those who can remember Oscar-7 will recall how well it performed with JA contacts possible from southern VK. It'll be

good to see a return to those kinds of access times and footprints on LEO satellites. If it contains similar features to the current RS series it should provide an excellent entry level satellite for Oscar users.

Oscar-13 Orbit Decay:

Not long after its launch concern was expressed about the long-term viability of Oscar-13. Due to a couple of problems during the launch its orbit was less than ideal. A lot of number crunching in a large computer at NASA has come up with some predictions which aren't good. It appears that the perigee will decay down to about 500km some time this year. Originally it was thought it would continue to decay and come down before the end of 1992. Further calculations have indicated it will recover to just over 600km by 1994 and then the big plunge will happen in 1996 when it will decay to less than 200km and re-enter. Oscar-13 never lived up to its expectations for this part of the world. The orbit drifted rapidly so that apogees were high in the northern hemisphere and much of the good communication time was lost to southern hemisphere stations. Hopefully phase 3D will be better placed for those stations south of the equator. Next month I'll go through the orbit possibilities for phase 3D, as

SPOTLIGHT ON SWLING

ROBIN L. HARWOOD VK7RH - 52 CONNAUGHT CRES, WEST LAUNCESTON 7250

The situation in the former Soviet Union continues to be rather volatile, as evidenced by the Armenian enclave of Nagorno Karabakh, in Azerbaijan. Full-scale civil war has erupted amongst the inhabitants and has now involved the two republics of Armenia and Azerbaijan. Radio Yerevan in Armenia does have an external service in English and Armenian, but is beamed primarily to North America, where there is a sizable Armenian migrant community. Reception may be possible during our winter months, around 0330 UTC. The Azers do not have an external service in English and seemingly target audiences in Iran and the central Asian republics in Azeri.

Meanwhile, the World Service of Radio Moscow is continuing, but its future is still rather uncertain. I believe it isn't a part of the domestic "Radio Russia", which has taken over the Russian language editions of the World Service. Funding was supposed to be a part of the Commonwealth of States budget, yet this has not been confirmed. The stationery from Radio Moscow still carries the USSR logo, although the address is given as "Moscow, Russia". I believe that the service could be looking for commercial sponsorship to help the continued funding of the station. Already, many Asian and African languages have been axed or curtailed, including drastically reduced

ing those 24-hour Chinese language broadcasts. Some senders are now being leased out to either international or to domestic commercial broadcasters.

Because of these budget cutbacks to Radio Moscow, the Baltic nations of Latvia, Lithuania and Estonia have found that their rental of senders located within the former Soviet Union has escalated dramatically. Because of the imminent rate hike, Baltic programmers made on-air appeals for assistance in getting clearer channels for their own low-powered senders or help in obtaining their own higher powered units.

I have noticed Radio RSA in Johannesburg, South Africa on 15230kHz in English around 0430 UTC. It is broadcasting to Afri-

can audiences and has been quite good. Unfortunately, propagation isn't always reliable, as Radio Moscow World Service can be heard when Radio RSA's signal is absent.

The BBC External Services is negotiating to build a new relay base in Thailand, to replace the Hong Kong Relay, which is to close in 1997 when China re-acquires Hong Kong. The BBC site is reportedly going to be the location of the second Hong Kong airport.

Yet another co-operation agreement between international broadcasters has been signed. NHK in Tokyo has entered into a sharing of senders with the BBC External Services. This means that Radio Japan programming to western and central Europe will be via the BBC senders at Skelton, UK, and eventually for the BBC to use the NHK site in Japan to broadcast to East Asia.

Well, that is all the news for now. Until next time, the very best of listening and 73.

AR

Don't buy stolen equipment - check the serial number against the WIA stolen equipment register first.

ALARA

JENNY ADAMS VK3MDR 70 KANGAROO GROUND RD, WATTLE GLEN 3096

Greetings to all once again. Another month has flown past. Late last year Christine VK5CTY was lucky enough to meet Val KH6QI from Honolulu when she was in Adelaide for a few days. Before coming to Adelaide to visit her friend Beryl, Val had been with a research team on the Great Barrier Reef.

Prior to that she had been with a team identifying archaeological sites at Easter Island in the Pacific. She is a lady of many interests, and is fortunate enough to be able to pursue them wherever in the world they are. Val would love to meet any LY passing through Hawaii - if she is at home. Paddy VK5ZYB is going to sponsor Val.

Four ALARA girls participated in Camp Quality in VK5. Christine VK5CTY and Paddy VK5ZYB went up on the Monday morning, Meg VK5AOV and Denise VK5YL went up on Tuesday and Friday mornings, and Denise went back on Tuesday evening as well.

Most of the time we helped the children make up simple electronic kits or operated the radio to show the children what amateur radio is all about, which was all very satisfying, but it was the extra trip by Denise that was the highlight of both ALARA participation and of amateur radio activity associated with the camp.

Denise took up detailed information of altitudes, azimuth and time of passage of the MIR satellite that night. She helped the men move the antenna into a more suitable position to catch the orbit, and then all waited for the appropriate time to arrive.

Denise tells us the conversations between the astronaut and Gabby was so crystal clear

she almost began to suspect someone was playing a trick on them. The QSO lasted eight minutes of the passage of the spaceship across the sky.

From Marilyn VK3DMS our report on the ALARA contest. It was very heartening that not only did the logs arrive earlier this year, but there were more of them. The number of OMs taking part this year was also much higher, and we do appreciate their presence.

I am sure everyone felt the same about the utterly despicable solar flare, which decided to coincide with the start of the contest. More than one girl checked her gear very thoroughly, thinking it had gone wrong! Not so - just several totally lost hours.

Congratulations to one of our newer members, Robyn VK4RL, who took out all the honours in her very first contest!

More congratulations, this time for Lyndell VK5LO who, with valuable help from OMs, managed more than enough points to qualify for the Florence McKenzie CW trophy. It will be great to see another name go on. It would appear that conditions entirely beat most of our DX members, with only the ZLs managing to get through. We can always hope for better things next time.

Conditions didn't beat Mavis VK3KS and her OM VK3XB who both got good scores on their 33' of wire along the fascioboard (a piece of wet string). It just shows what determination can do - bravo Mavis and Ivan.

Dorothy VK2DBB once again represented

Results of the 11th ALARA Contest, November 1991

Marilyn VK3DMS, Contest Manager

1	VK4RL	Robyn	243	Top score overall, top phone, top VK ALARA member, top VK YL trophy
2	VK4VR	Val	218	
3	VK5CTY	Christine	198	Top VK5 ALARA member
4	VK5AOV	Meg	193	
5	VK5YB	Paddy	190	Top VK6 ALARA member
6	VK3KS	Mavis	136	Top VK3 ALARA member
7	VK5YL	Denise	135	
8	VK5DYF	Brian	129	
9	VK5LO	Lyndell	125	Top VK YL novice Florence McKenzie trophy
10	LA0018	Charles	122	Top SWL
11	VK4ADE	Margaret	120	
12	VK3XB	Ivor	115	Top VK OM
13	VK4LUB	Julia	113	Top VK non-member YL
14	VK2DBB	Dorothy	110	Top VK2 ALARA member
15	VK5BMT	Maria	102	
16	ZL1ALK	Della	102	Top ZL ALARA member Top DX YL trophy
17	VK3DE	Bev	100	
18	VK3DYL	Gwen	90	
19	DL5PCA	Rosal	89	Top European non-member YL
20	VK4WH	Claire	73	
21	ZL1KWA	Amp	68	
22	VK2HNS	Helen	66	Top VKT ALARA member
23	VK3PO	Jeffy	60	
24	VK5AHW	Marilyn	60	
25	ZL24GX	Owen	44	
26	VK3ALD	Len	30	
27	VK3BZ	Keith	30	
28	VK4HUR	Ted	24	
29	VK5BS	Brian	24	Top Pacific Is OM
30	VK2HNS	Jan	18	
31	VK3DMS	Marilyn	Check log	
17	VK	ALARA members		
3	OK	ALARA members		
2	VK	non-member YLs		
1	OK	non-member YL		
6	VK	OMs		
1	OK	OM		
1	SWL	31 logs in total		

us at the Gosfield Field Day. Once again kookjw prevailed by the end of the day. Thanks Dorothy.

Cheers till next time 73/83

ar

INTRUDER WATCH

GORDON LOVEDAY VK4KAL - AYEMORE, RUBYVALE 4702

This new year for the MS will hopefully see some new developments. The changes we have witnessed in the USSR can only have a bright side for the worldwide amateur fraternity. It could produce many changes in the long-standing intruder patterns, as the newly independent states get their own systems going, will they, as smaller states, be much more co-operative than the USSR giant? Some of those independent states have already made separate applications to join IARU, when their administration problems get sorted out, Bob ZL1BAD, the International Co-ordinator, believes that we will be able to get rid of many of the long-standing "Russian" stations. We watch with interest in R-3. Those observers listening to the "A2A" mode on 7038MHz, are you absolutely sure it is A2A??? A2A is a single-channel AM of a tone, for audible re-

ception. The R/T on 14045 +/- N0N and U/L SSB, the majority of fone contacts monitored are Chinese languages - this is not heard in the outer regions, suggesting relatively low power. Given that it has a constant carrier, detectable most of the time, a little organisation around R-3 should be able to come up with a QTH for it. Observers please give this more attention. VK, as with other countries, seem to have a frustratingly seemingly endless task with intruders, but it does have value and it does help. We must keep reporting the long-standing intrusions, if only to build up a history, which at some appropriate time we can produce as a lever. Radio Beijing on 40m! This station was documented for 30 years, then the deciding factor was produced to the Chinese ... by the JARL! It is hoped that more "noise" is made about our successes.

Apology for the absence of "Knutshell Knowledge" in this issue. It will be resumed as soon as possible - VK3IY

LARUMS Summary Jan '92

Freq	UTC	Date	Mode	ID	X"	Comments
7002.5	1120+	161291	A1A	V	12	Beacon USA Visualistok
7008.5	0910+	161291	F1B/A1a	-	23	UMS77 250kHz URS
7021.5	0840+	271291	F1B	-	8	3rd register 250kHz tic & idle USR
7048.9	dly	161291	F7B/F1a	UHF3	26	51g gap ID @ end of same USR
7080	1900+	030192	R7b	-	7	Interference as of SSVT audio
7080	1900+	to 010292 extreme interference to amateur operations				
14001	1712	120192	A1a	-	-	51g URS tic out
14022	1015	220192	JSE	-	3	R4ale foreign language
14030.2	1100	040192	JSE/J	-	-	R4ale Chinese voices
14045	1015+	9-2401	NON	-	10	Carrier + rad telephone
14046/-	dly	161291+	JSE/L	-	28	R/TX 2 ch duplex & dialling, Asian
14053	dly	161291	F1B/Ac3	-	35	Chs "FAR" + TTY + NON
14073.8	1200	020192	A1a	VRD	2	"Clicks" only
14074.8	1200	130192	A1a	VRD	4	Tic + Msp fast op
14075	dly	280192	A1a	VRD	68	Tic also uses 14070&14080,KFB,VEX VTM
14092	0815+	301291	A1a	R6T77	5	Short coded msg out VTM
14093/5	mnl	170192	A1a	VPC	7	Tic out (co-operation & protocol)
14100	0930/5	030192	A1a	NZB	17	Tic out ZBK de KZB QSV K
14177	mnl	301291	F1a	UID80	7	Calls only with UZ244
14210	mnl	161291	ASE	-	25	Har of 7105. B/c radio Espana
above mixes with F1b ams on 14211 & 14215MHz/170192 @ 6920 cfm programs						
14211/215	0820+	161291	2x F1b	-	27	2ch 3rd sh 200-250kHz 50 baud
14215	1000/15	311291	A1a	P7A	10	Tic in & out PKW de P7A etc
14217.5	dly	mnl	F1a/A1a	UMS	26	+ F1b main UMS sdn USA
14250	dly	mnl	NON	-	7	+F1b also AFK
18080	1154+	030192	ASE	R Moez	22	ID @ 1200 Radio Moscow USR
18090	1215	030192	ASE	???	2	B/c sig tune "Church Bells"
21031.5	dly	mnl	F1B/A1a	MNR	44	Tic to UUR UMS & others hvy CRM
21135	0400+	200192	F1b	-	8	TTY 200Hz
21283.5	dly	mnl	A1A	MNR	40	to UUR UMS also F1b 5-flg blocks

This month's logs from VKs 2PS, 4BG, 4YD, 4AJC, 4BH, 4BTW, 4BXC, 5UG, 5GZ, 5TL, 6RO, 6XW.

FTAC NOTES

JOHN MARTIN VK3ZJC
FTAC CHAIRMAN

Records

This month there is a new national short path record for 50MHz, at an almost unbeatable distance of 19,261.3km. The contact was between VK2QF and CU3N6AMG and is most likely the first-ever contact between Australia and the Azores.

The Azores is almost 180 degrees from south-eastern Australia, and this record looks as though it would be very difficult to beat.

In addition, two new VK5 state records go to Trevor VK5NC. One is a new 50MHz record for a contact with GJ4ICD (16808.4km) and the other is a 432MHz record for a 2069MHz contact with VK6UD. This contact was made six years ago, and it just shows how slow some people can be in making record claims.

Congratulations to these new record holders.

TV Stereo Carriers

My thanks to those who have written with details of interference problems.

REPEATER LINK

WILL MCGHIE VK6UU @ VK6BBS - 21 WATERLOO CR, LESMURDIE 6076

Circuits

Replacement of a large part of the VK6 repeater network with identical units always looked like a big job. With the acquisition of a number of Phillips FM800s (FM828s in a rack-mounting box) the opportunity to rebuild our repeater network from the ground up was begun.

The existing network was a collection of many different types of modified radios. When a large number of repeaters are operated by one organisation, this variety is nothing but a problem. Non-standardisation causes extra work and a poorer standard of repeater system.

How well is your repeater documented? With many different types of repeater design our documentation was less than adequate. If the new repeater design was to be a complete success, then design and documentation had to be comprehensive. This is where the idea of recording all the documentation on computer began. Circuits were drawn and modified on the computer as the repeater hardware grew. Many hundreds of hours were spent in placing the circuit schematics on computer, and the process continues today with updating any changes.

With all this information now on computer, how could it best be shared with other amateurs building repeaters. The most obvious

way is to print the circuit descriptions and circuit schematics onto paper. Simple enough, and some of these circuits have appeared in Repeater Link.

There is, however, a better and more versatile way of disseminating the information, and that is via packet radio. Not only disseminating, but receiving feedback with circuit corrections and modifications. The versatility of the packet network, I believe, is understood by some and not by others. Having just increased my knowledge of what packet can do for circuit design ideas, by disseminating the information, I would like to share this information. To many in the packet world, this is old hat and they have been doing much the same thing for years. For those who have not, read on.

The backbone of the packet network is the BBS* and the interconnection between them. Any amateur who can access a bulletin board can send a text message to any other amateur in the world who has packet radio. Not only text, however, but any information can be sent. This includes high definition colour pictures and circuit diagrams. In fact anything you can see on a computer screen can be sent via the BBS mail system.

The mail forwarding via the packet network is text based only; that is 7bit information. In order to send colour pictures etc,

which are 8bit, a program is used to convert the 8bit information to 7bit information. This 7bit information which represents the 8bit information exactly, can then be sent via the packet mail system to any amateur anywhere. All that is needed at the receiving end, along with a packet station and computer, is the same program that was used to create the original picture or circuit diagram.

This is the crucial part. The program that was used to draw the circuit diagram. If there is no standard, a circuit drawn by using a particular program may be of no use if another amateur uses a different program for circuit design. There are ways and means of converting circuit drawings drawn by one program into another drawing program. Take it from me, a novice in the computer world, this is not easy. It is far simpler to arrive at a standard drawing program for amateur radio use.

If you have not seen circuit drawings done on a computer, you are at a disadvantage in understanding how flexible they are. A circuit on a computer can be manipulated in many ways. You can zoom in and out on the fine detail that the circuit may contain. Changing components is easy and fun to do. The results can look as good as any you see in electronic publications. All this can be sent to another amateur for saving for future reference, or this amateur can take place in the design phase, and modify the circuit. The potential is considerable. The infrastructure is already there; only standardisation on a drawing program is required.

At present, the drawing program that has potential and is the best shareware program I have found so far is Draft Choice version 1.51. A shareware program is required as copyright programs could present problems. DC151, for short, is a credible powerful drawing program. It is not directed specifically

towards schematic drawing, but does the job well. You may well find this program on a local BBS.

It is important to repeat the versatility of having your repeater circuits on computer. They look good. They are fun to draw. They are easy to modify. They can be printed out on

to paper and, if a standard is agreed upon, they can be sent around the country.

From time to time, I receive requests from amateurs who are building their first repeater. One thing most of them say is where do you find information on repeaters. Maybe, in the long term, computer CAD can help a

DIVISIONAL NOTES

VK2 NOTES

THE MILES VK2WTM

Members of the NSW Division are reminded that the 1991/92 AGM is scheduled to be held at Amateur Radio House, 109 Wigram St, Parramatta on Saturday afternoon of 2 May 1992. The formal notice and business paper are contained within an insert booklet included with the April 1992 issue of *Amateur Radio*. This booklet also contains the current membership card.

Happenings

A typo crept into the special event callign for the 200th birthday of Ryde in last month's notes. The prefix should have read VI. The special event callign VI2BC is being operated by John VK2DEJ ... The 43rd annual Urunga Convention will be held over Easter at Urunga on NSW's mid-north coast. Details via the VK2WI broadcasts or from Merv VK2DMS, or check into the Coffs Harbour net, VK2EP on 3610kHz at 8pm Mondays ... In June the Oxley Region Field Day is held at Port Macquarie ... The next exam conducted by the Division will be held on Sunday, 24 May, closing date 7 May. Details from the office, see page 3 for contact methods ... The next Parramatta based Trash & Treasure will be 31 May ... AGM for AAPRA 12 April.

VK2WI

The packet BBS VK2RWI has had to change to a temporary antenna until some problems are solved. Some investigation is under way to offer 2400bps on the system ... The stolen equipment register is available on VK2RWI; look in the general files area in the "F" directory.

For a few months a test transmission was made onto 20 metres of the VK2WI morning broadcast by Peter VK2OG on our behalf. Our thanks to Peter for his assistance. Currently Graham VK2DIG is conducting a morning and evening relay for VK2WI onto 17 metres, 18.120MHz - reports are most welcome. The Division would like assistance to continue relays 20, 15 and 12 metres. If you can help, please contact the Divisional office. In time these frequencies will be included in the VK2WI facilities. Help is also wanted in the maintenance of some of the Dural equipment. If you can assist, also advise the office and

indicate area of interest and leave a contact point. A fault has taken the 6m beacon transmitter off air, one of the areas for which assistance is required.

New Members

A warm welcome is extended to the following who joined the NSW Division early this year.

A	Calos	Assoc	Bankstown
DR	Clark	VK2KSN	Canowindra
AP	Colman	Assoc	Port Macquarie
JE	Conway	Assoc	Mount Druitt
E	Dalt	Assoc	Springvale
JN	Devidson	Assoc	Maroubra
D	Doherty	Assoc	Narramine
PK	Duddy	VK2GJ	Thornleigh
I	Gavin	Assoc	Umina
DMB	Harvey	VK2RWN	East Ryde
K	Hughes	Assoc	Lidcombe
RJ	Hughes	VK2YOW	Willoughby
WL	King	Assoc	Georges Hall
M	Miranda	VK2TCM	Seven Hills
A	Radman	VK2VAR	Goulburn
N	Roma	Assoc	St Andrews
JL	Roeser	VK2WAG	Niagara Park
IH	O'Brien	VK2BHU	Bega
GK	Vick	VK2ZEV	Narrabeen
DG	Walker	VK2ZBW	Lugarno
MC	Wares	VK2MAC	Woolgoolga

Divisional Services

Library: There is an extensive collection of books and magazines maintained at the Parramatta headquarters. There is a detailed index system, which is cross-referenced, in a series of folders (Nobody has yet offered to transfer same to a computer). Members may use the library during the week or the Wednesday night opening. For those unable to visit, send your request in by mail, fax or telephone Tuesdays when Aub VK2AXT, the Divisional Librarian, is in attendance. For a copy of the library conditions and facilities send a stamped, self-addressed envelope to: The Divisional Office, PO Box 1066, Parramatta 2124. An article photocopy service is available, and some facilities are available to WIA members in other Divisions.

7B

5/8 wave

JENNIFER WARRINGTON VK5ANW

Special Notice

The AGM will be held on Tuesday 28 April at 7.45pm in the BCB, not the 21st as stated in the *Journal*!

The following is printed with the permis-

sion of Rowland VK5OU, and is taken from his President's Notes in the February '92 SA *Journal*.

"Whether they hold religious beliefs or not, I think most people would go along with the concept of 'loving your neighbour as yourself' or 'treating others as you would like them to treat you'. Of late, this seems to have been diluted somewhat to a concept of 'do what you want, so long as it doesn't hurt others'. We talk of a victimless crime, but differing people have different ideas of what is acceptable, eg the graffiti artist perhaps considers his work art; the owner of the wall a nuisance. The person playing the stereo at his 'acceptable level' may well be intensely annoying to the next-door neighbour. And this sort of thinking can easily lead to the concept of 'blow you, Jack, it is my right to be able to do this, that or the other'.

So, how do we stack up in our hobby? If the neighbour complains of TVI do we try to be cooperative in finding a solution? How do we treat our fellow amateurs? I guess we are all guilty of misdemeanours; one of mine, I know, is to rely upon the repeaters too much. It is so handy, having made a contact, to stay there, rather than QSY to a simplex frequency, if possible. I hope, though, that I have never told someone who has tried to take advantage of the pause to 'get nicked, I've got a right to use the repeater as much as I want', which I heard the other day. We have bandplans and gentlemen's agreements recommended by the WIA, and they have been arrived at, often over several years of discussion and modification, for the good of amateurs generally. Some of these are our own plans, peculiar to Australia; others are international, such as the SSTV frequencies on the HF bands, the DX windows and so on. Do you know them? Do you observe them? There is no legal requirement to do so, just consideration for others. The bandplans appear on page 12 of the *Australian Call Book*. Similarly, on VHF, there are the ATV liaison frequencies on 2m, satellite, EME etc, on 23cm to consider. May I recommend to all who use the bands above 50MHz the plans on pp 26-31 of the callbook?

One area that seems open to considerable abuse and misinterpretation is the concept of calling frequencies. These are designed to allow for the making of an initial contact, and then one should QSY. In particular, 146.500 is of concern. It is not intended as a chat-channel. Certainly one has every legal right to remain there, but accepted practice, good manners, consideration for others and, in the end, your reputation as a good operator rest

upon your willingness to abide by this convention. Please observe it, and please, Old Timers, let's encourage our younger operators in good techniques rather than in their rights.

I leave you with my thought for the month: "The cemeteries are full of drivers who had the right of way"

Thanks, Rowland, I think there are quite a few things to think about in there. Thanks also to Trevor Lowe VK5ZTJ who is retiring as *Journal* editor after several years of excellent service. Anyone who would like to take on the job, please contact Bill Wardrop VK5AWM.

NB: If you are wishing to sit any of the amateur exams, please put in your application at least two weeks before the exam date.

Diary Dates

Sun 5 April Mt Pleasant Radio Picnic Day,
Mt Pleasant Oval 1100-1600 hrs

(see *Journal* for details)

NB: Tues 28 AGM commences at 7.45pm
(not 21 April as published in *Journal*).

VK6 NOTES

HARRY ATKINSON VK6WZ

This is the month of the Division's AGM and, as these notes are being prepared, the date should be 21 April. Nominations for divisional council closed on 10 March, the date for notices of motions for the AGM. So far there has been no rush of volunteers to take over book sales in WA, but we have had a volunteer for the position of Divisional Broadcast Officer. Details next month.

Meanwhile, congratulations are in order

for Joe VK6ZTN on receiving the President's Commendation in the Ron Wilkinson Award.

The John Moyle Field Day will have come and gone by now, but we are assured by the Northern Corridor Radio Group that its entry this year will be even bigger and better than last year. You should just see the way these guys prepare for the Field Day - their command of logistics would surely give even the professionals pause to think - and admire.

Finally, a word to the callsign dissatisfied. A recent case of harassment of a grieving family for a Silent Key's two-letter call gave many of us a nasty taste. Fortunately, a family member, already licensed, will take over the call. If you're so hungry for a two-letter call, deal with DoTC and wait your turn - don't pester grieving relatives with your petty little demands!

ar

CLUB CORNER

Notes from the Moorabbin and District Radio Club

The big news is that the club's annual hamfest has grown so large and popular over the years that we have had to find an even larger venue, having outgrown the club's own premises a couple of years ago.

An insert in the Victorian issue of AR gives full details. The date is Saturday 2 May, and the location Brentwood Secondary College.

The club's highly regarded power supply kits and direct-conversion receiver kits continue to be very popular. Details of these kits may be obtained by writing to the club at PO Box 88, East Bentleigh 3165.

Radio Amateurs Old Timers Club

All members of the Radio Amateurs Old Timers Club are asked to note that the times given for our monthly broadcast in the current issue of our OTN magazine were quite wrong. My fault, I'm sorry to say!

For the next six weeks, depending on conditions, the 2400 hours Zulu transmission will be on three frequencies simultaneously: 145.700MHz FM, 7.060MHz SSB and 3.560MHz SSB.

The transmission will be repeated at 0100 hours Zulu on 14.150MHz SSB beaming north, and again on 14.150MHz SSB beaming west.

To make our monthly transmissions of interest we need information about coming or recent activities of members in all states, and also items of interest about which you have had direct experience in the past, or about which you have knowledge. These items may be sent to me QTHR.

Allan Doble VK3AMD

Summerland Amateur Radio Club

At the 33rd Annual Meeting of the SARC,

held Friday 21/2/92, the following personnel were selected to control our destiny for the ensuing 12 months:

President VK2KKX John
Vice-President VK2EA Keith
Secretary VK2HE Ken
Treasurer VK2JWA John

Examinations Officer VK2KKX John

Awards & QSL Officer VK2ESI Jim
Publicity VK2GJ Graeme
Librarian VK2WJC Bill
Quartermaster VK2IGC Gerry
WICEN VK2PF Peter

Committee members: VK2KUZ Terry;
VK2EJV Ric

Repeater sub-committee: VK2YKM, VK2FSD,
VK2AGE, VK2YLO,
VK2YDN

Packet sub-committee: VK2YDN, VK2AGE,
VK2JNR, VK2KRL,
VK2BEV

Examiners: VK2KKX, VK2HE,
VK2EA, VK2EJV,
VK2IGC, VK2FSD.

Our clubrooms are at Richmond Hill, Goonah, and the club callsign is VK2AGH, with HF, VHF, UHF and packet equipment in use.

Four voice repeaters (three VHF and one UHF) and three packet digipeaters (two VHF and one UHF) are controlled by the club.

Our packet BBS is VK2YDN-1 and the local PMS is VK2EA-2.

The club has an extensive array of test equipment and tools for use by and loan to members.

The clubrooms are operational on Thursday evening and Sunday afternoon, with other times by arrangement.

HF nets are conducted on 3.605MHz Monday to Friday, 2030 UTC, and on Sundays on 3.603MHz at 1000 UTC.

A CW net runs nightly on 28.200MHz at 1230 UTC.

VHF nets on either repeater VK2RIC or VK2RBB, Fridays at 1000 UTC.

The WIA broadcast is relayed on VK2RIC, Sundays at 0100 UTC.

An informal net is held each Tuesday afternoon at the Lismore Workers Club at 1705 local.

Examinations for the amateur licence are conducted every two months in our clubrooms. We have six authorised examiners.

Our club has an Award, "Las Balsas", available to all amateurs. This award was established to commemorate the 1973 Las Balsas expedition across the Pacific Ocean.

A "minifest" is conducted annually; this year on 1 August.

Social outings are held monthly, either an evening dinner or a barbecue picnic, at various locations within our Summerland area.

At present we have 101 members, who include 44 members of the WIA.

Club membership is available to anyone who is interested in any branch of electronics: amateur radio, computers, remote control etc. Enquiries may be made directly or to PO Box 524, Lismore 2480

Graeme Virtue VK2GJ
Publicity Officer

Brisbane Amateur Radio Club - BARCFEST '92

On Saturday 9 May this club will be conducting its 10th annual BARCFEST (hamfest).

Date: Saturday 9 May 1991

Time: 9.30am-3.00pm

Venue: As in previous years, is Indooroopilly State High School, Ward St, Indooroopilly, Brisbane.

Features: Lectures, AR equipment, retailers' displays, specialised group displays,

military radio display, computers and disposals. Some arts and crafts, pot plants etc for the family.

Further details may be obtained by writing to the Barcoft Co-ordinator at the above address, or by telephone on (07) 288 4911.

Dave Prince VK4KDP
Barcoft Co-ordinator

Barossa Amateur Radio Club Inc

In the Reference Data section of the Febru-

ary 1992 issue of *AR* there is an error in the listings for the repeaters operated by the Barossa Amateur Radio Club Inc.

The listing for VK5RGB should be as follows:

Output	Input	Call	Service Area	\$
ERP	HASL	T/O	Sp	
147.825	147.825	VK5RGB	Adelaide	o
50	50	3.5	SBA(24)	

The listing for VK5RBP should be as follows:

Freq 1	Freq 2	Call	Service Area	\$
ERP	HASL	T/O	Sp	
147.575		VK5RBP	Barossa Valley	0
50	110	SBA		

Note (24) is incorrect in that VK5RGB is not "experimental" and does not operate with VK5RBP (this is a packet repeater).

VK5RGB is a fully operational licensed "simplex" repeater located near Gawler (with a beam antenna directed to Adelaide and suburbs) and is permanently cross-linked with VK5RBP in the Barossa Valley.

Please could you publish the updated data in *AR* so visitors to the area would be aware of the existence of the linked network covering the Adelaide/Barossa Valley area. **ar**

SILENT KEYS

**DUE TO INCREASING SPACE DEMANDS
OBITUARIES MUST BE NO LONGER
THAN 200 WORDS.**

Robert Pallett VK3BEA

It is with deep regret that I advise the passing of Robert (Bob) Pallett VK3BEA on 22 December 1991, after a short illness.

Bob home-brewed most of his early equipment, and demonstrated a keen sense of adaptability in the use of available parts (ie Dettol bottle caps made practical and aesthetically pleasing tuning knobs).

With the increased use of SSB, FM and black-box operating, Bob turned his considerable talents from home brewing ham gear to the re-creation, restoration and experimentation of earlier types of equipment. He produced many fine, faithful, working examples,

including spark transmitters, coherers and various types of detection devices. Bob was able to emulate some of the experiments of Hertz, Marconi and the like with this gear, for the benefit of others. He was a founding member and former committee member of the Gippeland Radio Club. Bob is survived by his wife Dorothy, three daughters and two grandchildren.

Thank you Bob for the part you played in rekindling my interest in amateur radio and your assistance and encouragement to Irma and myself in obtaining our licences but, most of all, thank you for being our friend.

Kerrie Bessy VK3BBY ar

The WIA regrets to announce the recent passing of:

J H (Roy) Hart	VK2HO
R (Bob) Pallett	VK3BEA
W C (Wally) Middleton	VK3IT
S G McLean	VK5ME

**When you buy
something from
one
of our
advertisers, tell
them you
read about it in
the WIA Amateur
Radio Magazine.**

Spreadeagled?

In the February WIA News section of *AR*, it was reported that the WIA had contacted the DoTC for clarification of RIB 71, paragraph 39, in respect to spread spectrum emissions. Recently, disturbing news came to light concerning identification requirements for stations using this mode.

Dr Owen Lee Kiddon VK1APR, who lectures in digital signal processing at the Australian National University in Canberra, informs us that DoTC still requires amateur stations to listen on frequency and to identify, either by voice or morse code, at the start and end of each transmission.

This places severe restrictions on spread spectrum operators, whose signals are spread over a wide band of frequencies at very low signal levels, and on those experimenters who employ "frequency hopping" techniques.

"DoTC is completely missing the point of spread spectrum operations," said Dr Kiddon. "When frequency hopping, the signal is only on a particular frequency for a few tens of milliseconds. If the operator must prefix each "hop" with QRL and a station ID, the benefit of this mode is totally lost. When employing true spread spectrum, the situation is even more ludicrous, as at any particular frequency the signal level is near the noise floor, so nobody will hear the identification anyway."

"I blame the UK for this silliness. They started it all by requiring packet operators in the UK to identify in CW as well. It seems some British civil servants have migrated down here. Perhaps the military origins of spread spectrum are stirring up paranoia in Canberra."

Dr Kiddon urges all radio amateurs to demand the right to "hop without hindrance".

(Please hop to page 54)

OVER TO YOU

ALL LETTERS FROM MEMBERS WILL BE CONSIDERED FOR PUBLICATION BUT MUST BE LESS THAN 300 WORDS. THE WIA ACCEPTS NO RESPONSIBILITY FOR OPINIONS EXPRESSED BY CORRESPONDENTS.

A Hundred Thanks

I would like to use *Amateur Radio* to thank the organisers and those who sent cards as well as the many amateurs who called my father, Harry Angel VK4HA, over the air on the occasion of his 100th birthday. Of the 100 or so who were on the air, Harry spoke to so many on a wonderful day for him.

On behalf of Harry, a very sincere thank you.

LILY ALLROP
CANNON HILL

WIA Exam Service

I am worried about our Secretariat "whose sore task

Does not divide the Sunday from the week; What might be toward that this sweaty haste Doth make the night joint-labourer with the day; Who is't that can inform me?"

Are we "prick'd on by a most emulate pride", And overcommitting our very limited resources?

LINDSAY (MARCELLOUS) LAWLESS VKSANJ
BOX 112 LAKES ENTRANCE 3909

It's An Ill Wind

I read in February AR that some repeaters may be forced to close down because the sponsors can't afford the high rents being demanded by the site managers who are being pressured by the current economic situation.

However, there is no doubt that declining amateur radio popularity is due to the failure of existing participants, including the WIA, to identify and promote the fundamental essence of the hobby.

There is also no doubt that any thorough analysis, in contrast to the shallow guesses we have seen over the past few years, would identify the fundamental essence of the hobby as informal competitive contact-making where the competitive variable is the distance between the stations.

It follows that any activity which is contrary to the essence is inimical to amateur radio. Such is the nature of repeaters.

The enemy of my enemy is my friend.

Vive the current economic situation!
GORDON McDONALD VK2ZAB
59 WIDENWAY RD
BEROWBA HEIGHTS 2082

Cans Can Do It?

Well, while the hornets' nest is still rattling! About Owen VK2DMY in Editor's Notes Feb '92, we are lucky being in Australia, when other countries don't have amateur radio etc, let alone a free say in public on politics etc.

I have worked hard most of my life - now 41

years, which is fairly young, but ... I get the usual too old, too well qualified etc, etc, when trying for a job.

Nowadays I look after my children (single parent). Not easy to do, I'll tell you, and hard to make the dollars s-t-r-e-t-c-h.

Those people who find it too hard to support AR, just think about it. You could save 10 aluminium cans a week and, hey presto, in one year it equals AR magazine. Drink 10 tinnies a week (soft drink, of course!), enjoy it; no headache, and you have 10 cans a week to get your AR and pay your dues, right? Anyhow, really mate, I have heaps of problems my way, and it's hard going, but if I didn't have my radios to talk to people around here and overseas I would not have much of an outlet from home.

And, be honest, who wants your job, mate? I think it would be a hard act to follow: keep up the good work.

CHEERS & 73
MAURICE STONEHOUSE (& KID) VK6NST
140 MEDINA AV
MEDINA 6167

(Seems unlikely that 520 cans would have enough scrap or refund value, Maurice, but I guess it would help anyway! Ed).

SWL QSL

I am prompted to write regarding QSL cards to VK regions.

I have been a SWL for almost three years and, in that time, have sent more than 200 QSL cards to various VK operators, but have yet to receive any in return. Whilst it is appreciated that not all operators respond to QSL cards, surely some would.

Is it possible that all SWL's QSL cards are ignored, either by the bureau or the operators themselves? If so, why? The "G" bureau has assured me they are sent regularly from here.

It is much more difficult for the SWL to log call signs, as he does not have the facility to ask an operator to repeat his call sign should he not get it the first time, and some operators tend to string their own and that of who they are working, together, thus making it more frustrating.

When I first started listening, I would rise early to catch VK, but not any more. It's not worth the trouble!

ROY BESSANT RS92837
43 OLDFIELD DR
VICAR'S CROSS, CHESTER
ENGLAND CH3 5LN

Value of WICEN

Recent promotion of WICEN has received a cool reception locally for several reasons. Some of these are:

1. The number of separate emergency or organisations already existing, each with its own structure and communications.

Morseword No 61

Solution Page 56

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Across:

- 1 Jeans material
- 2 Become dimmer
- 3 Pierce
- 4 Bushwalk
- 5 Discount price
- 6 Edges
- 7 Golden
- 8 Smoky atmosphere
- 9 Study hard
- 10 Meaning

Down:

- 1 Food fads
- 2 Settles
- 3 Prevalent
- 4 Employes
- 5 Sketched
- 6 Ache
- 7 Run
- 8 Leg joint
- 9 Reddish brown
- 10 Bicycle

© Audrey Ryan 1992

The need is for greater integration and intercommunication, not the superimposition of an external body

2. Most amateurs enter the hobby to communicate with others with similar interests. They do it for recreation and enjoyment, not to perform a public service
3. Local amateurs recognise that they may be of use in an emergency. Consequently authorities are advised of their availability. However, they refuse to accept the fees, exercises, uniforms, procedures and paraphernalia of WICEN. If WICEN membership is a prerequisite for them to be used in an emergency, they are content to pursue their hobby and leave emergency operations to others. But, should an emergency occur in which their employment could be of material benefit, and they are not utilised, they would feel free to acquaint the public with the reason, especially as they may be co-opted into an emergency body if required.
4. Those amateurs interested in emergency communications are encouraged to join one of the rescue organisations whose members generally reveal only a limited knowledge of the operational and maintenance requirements of their communica-

tions equipment, and who could make effective use of amateur participation.

5. In past major emergencies uncommitted amateurs have figured as prominently as WICEN members. Amateur regulations cover emergency operation and, subject to the control of relevant authorities, an amateur is entitled to engage in emergency communications.
6. Whether involvement with WICEN would assist in preserving our spectrum space is questionable. The public has largely never heard of WICEN. It is the performance of individual amateurs that will count.

We should, perhaps, consider the relevance of WICEN before making our choices.

SV ELLIS VK2DDL
83 TAREE ST
TUNCURRY 2428

Do Regulations Matter?

Increasingly I hear "This is A signing off and clear with B"

If this is acceptable practice despite DOC71 para 25 (which tells us to put our own call sign last), I wonder what other regulations are not important!

The question seems to be whether some of the regulations are really intended to be just

a "guide" or if, in fact, we are required by law to comply with all of them?

B T PONTON VK5BK
Box 41
CAMERAI 5353

Non-Member's QSLs

Who knows which overseas bureaux do not accept non-member's cards? From returned cards, my list is growing, and now is: DARC (German), SARL (South African), REF (France) and NRRL (Norwegian).

And a French QSL manager for more than 200 stations who is not a member of REF, so no bureau cards will be accepted by REF for him.

Perhaps some help could be given to those wishing to obtain cards if they knew beforehand if they would ever reach their destination. I will keep a list if any correspondence from amateurs and SWLs is received, updating from time to time with a letter in AR. Any takers of the offer? The QSL manager, by the way, is F6FNU.

NEIL PENFOLD VK6NE
2 Moss Crt
KINGSBLEY 6026
(VK9 and 0 QSL MANAGER)
ar

SOME THINGS HAVE NO COMPARISON

amateur
radio
action

The magazine for the serious radio operator

AT YOUR NEWSAGENT EVERY MONTH

Have you advised DoTC of your new address?

HAMADS

TRADE BUD

● **AMIDON FERROMAGNETIC CORES.** For LF/HF/VHF/UHF applications. Send DL size SASE for data/parts to RJ & JH Imports, Box 431, Kilauea NSW 2533 (no enquiries at this office, please). 14 Bolingro Ave, Kilauea. Agencies at: South Wood Electronics, Sydney; Waste Electronics, Albany; Assoc TV Service, Hobart; Electronic Components, ACT; Truesell Electronics, Melbourne.

● **WEATHER FAX** programs for IBM XT/ATs: RADFAX2 \$35, is a high resolution shortwave weatherfax, more & RTTY receiving program. Needs CGA, SSBH radio & RADFAX decoder. Also RF2-HC RF2EGA and RG2VGA, same as RADFAX but suitable for Hercules, EGA and VGA cards respectively. SATFAX \$45, is a NOAA, Meteor and GMS weather satellite picture receiving program. Uses EGA or VGA modes. Needs EGA or VGA colour monitor and card & WEATHER FAX PC card, & 137MHz receiver. All programs are on 5.25" or 3.5" disk (state which) & documentation, add \$3 postage. ONLY from M Delahunty 42 Villiers St. New Farm Qld 4005. Ph (07) 35 82785.

FOR SALE — ACT

● **HAM RADIO MAGAZINE** Jan '77-June '91 plus "QC" to Oct '91 18 years for \$85. GC VKIUS QTHR (06) 281 3557 any time.

FOR SALE — NSW

● **BOOKS** and magazines relating to vintage and military radio and radar covering technical and history. Some new, some old, some rare. Send \$2 for list which includes a bibliography of military radio and radar publications. Also advice specific wants. C MacKinnon VK2DYM, 82 Mills Rd, Glenhaven NSW 2155.

● **DECEASED ESTATE** Large quantity of military surplus components for the collector/restorer. Send \$2 for list and advise your specific wants. C MacKinnon VK2DYM, 82 Mills Rd, Glenhaven NSW 2155.

● **KENWOOD TS150V, VFO120, TL120 linear**, noise-cancelling mic, mobile mount, all VGC. Offers Licensed amateurs only. Also UHF SWR meters. Phil VK3KEV QTHR (066) 78 1571.

● **YAESU FT101ZD MKIIA HF txvr**. EC. Original packaging, handbook etc. YD146 desk mic, hand-mic, hi-mount. Morse key, spare films included. S No 230636, \$695. Ian VK2WR (02) 534 7210.

● **YAESU FV101DM digital memory VFO**. Original packaging and handbook, absolutely as new cond. \$200. no offers. VK2WR (02) 534 7210.

● **TELETYPE ASB33** full ASCII teleprinter 110BPS with integral paper tape reader and punch. Complete with technical manuals. \$10 one. VK2AEJ (02) 955 4025.

● **EMAC TUBE SOCKETS SK800B** V8A10B for 4CX1000 4CX1500B Emac tubes 4CX1500B vacuum capc 500pF 1500V 1000V 1000V antenna charge-over relays 24VDC unused taken out of equipment 50K 70 watts bleed resistors 7" x 1" (02) 918 3835.

● **SWAP YAESU FT707** all band including WARC AM SSB CW-N-W 100W mobile serial no OH040108. Will SWAP for TS830 preferred, or TS530. Ken VK2QDO QTHR (043) 32 1111.

● **YAESU FT4700 RH** dual band 70cm/2m txcvr. Ideal car or base. All extras included. Five or 10 watts output, detachable front panel. 20 memories per band, ARS CTCSS, tone encoder/decoder, full duplex crossband extended frequency response, DTMF microphone auto-dialler (ideal for phone patch). Almost new. Great buy at \$650. VK2XJC (02) 386 1081 H. (02) 963 6915 bus.

● **RACAL Squidral HF SSB 2-7MHz** 29 channel inbuilt ATU, VGC, rechargeable battery \$200. Yaeu FTDX560, VGC, spare films \$50W input, \$390. Chamside duoband beam 10/15m, VGC, \$150. VK2QC QTHR (069) 48 5267 evenings.

● **URUNGA Radio Convention** WIA affiliated Australia's oldest 43 yrs Continuous Easter 18/19 April fox hunts, disposa compositions, friendly atmosphere, relaxing holiday, village mouth of beautiful Bellinger River. See you there. Further information VK2ZQD, VK2DGT, VK2ADA, VK2BUL, VK2EVB.

● **TOWER** two-piece triangular lattice, 17-31ft, wind up with new tilt-over base, \$275. John VK2VJO, 550 Ocean Dr, North Haven 2443. Ph (085) 58 8598.

● **ATH HF log periodic** 20-30-MHz continuous coverage 30-30MHz, 2x elements, 6.5dB gain, EC, \$375. Scott VK2JAG (02) 988 2026.

FOR SALE — VIC

● **PIPE ALUMINIUM** 3mm thick 4m Oldie 6m long, good \$36. ICOM IC271A all-mode txvr 2m 144MHz SW 01383 manual, perfect. \$650. VK3QNT QTHR (03) 582 4326.

● **YAESU FT202R** 2m all-mode s/n 1070486 with case, nicad, manual, EC \$300. TTT 4H at 0.8 amp, 500 vdc choke \$20. TTT 820v at 180ma transformer, \$20. MICROVAGE Corp step attenuator, six sections, BNC connect, \$25. Flager VK3XRS (051) 58 8291.

● **COLLINS KVM2A** lcvr plus 30L1 linear ampl lcvr inster books, all in EC. No more. \$2300 list. Rob VK3UE (080) 37 1262 or (03) 584 5737.

● **KENWOOD TS440S HF txvr** with mic and manual. \$1825. Ben VK3BH QTHR (03) 657 9438.

● **DECEASED ESTATE** OSKER BLOCK VSWR meter type SWR 200 \$35. VOLTHMYST AWA type A58010, \$40. KYORITSU vol-ohm-millimeter model K146, 20K ohm/ohm, \$25. DICK SMITH digital capacitance meter, model Q1222, \$65. ARCHER tunable UHF down converter, model 15-9850, \$40. MORSE KEY teleprinter type base 15cm x 10cm, \$30. MORSE KEY base 10cm x 5cm, \$8. DICK SMITH digital frequency counter, seven digits, \$60. KYORITSU grid dip meter K125-B, 435kHz-220MHz, \$45. MACROANTA FET analog multimeter 20 range 08 to 22-220, \$60. KYORITSU FM txvr type FM-105KR 1.5 car mobile & aerial, \$150. AWA mic DM-47 dyn model M5-31, \$15. HEADPHONE HS-33 800 Ohms, \$5. COAXIAL cable terminated

1500 plug RG214U 25m, \$25. YAESU MUSEN antenna tuner FC700 txvr, not used, in original box, \$120. For details contact Stewart Blake (03) 370 1774.

● **IGT51 HF txvr** with internal AC power supply and stabilised output oven. Immac cond. Ailing \$2000, but will consider reasonable offer. Ian VK3ACM (057) 52 2831.

FOR SALE — QLD

● **COMMUNICATIONS** receivers test equipment, mainly valve, SWL estate, send A4 S5AE for prices. Peter Hadgraft, 17 Paddon St, Holland Park 4121. (07) 387 3751.

● **FREE-STANDING** triangular galvanneal iron tower, 6m high in three bolt-together sections, ladder attached, bearings mounted in section, \$100. Mosley TA33 16band yag beam 20, 15 and 10m, \$100. (07) 892 3458.

FOR SALE — SA

● **YAESU 2m guitar mount** sbn 80m 40m 20m screw-on whips, \$150. EMTRON ET300 ATU \$160. VK5BVB QTHR (087) 38 0000.

● **ICOM IC761** super lcvr s/n 02010 quadrate conversion gen coverage RX built-in ATU electronic CW keyer IHB 38 Ohms. As new, little used, boxed. Bargain \$2850. (080) 339 2755.

FOR SALE — TAS

● **FIVE HAM RADIO** magazines, new cond, sub ARV EA etc, \$10 + post. Tom VK7TL QTHR (002) 23 8755.

● **JRC JST135** lcvr n/w, not used, boxw mic 150w/20p receiver 130kva-30mhz \$2050. Also NVA6B matching speaker JST135, \$150. KENWOOD TM441A 2m FM mobile, n/w, receive 11MHz-174MHz 50w high 10 w low, \$550 one. DRUJ digital not \$150. Suits TM41A VICTAN QTHR (003) 27 1171.

WANTED — NSW

● **ANY PAPERWORK** OR MANUALS for Marconi slg gen mod TF801A. Will pay all costs. VK3XN Col Davis QTHR (048) 52 7391.

● **TO SUIT KENWOOD TS580 ATU** (prefer automatic AT250 or similar) and 20A power supply. Brad VK3QKH (02) 906 5855 BH, 018 840 3777.

● **700M TRANSVERTER** module for Yaeu FTY-107R, FTY-70C etc, working or otherwise. Scott VK3JAG (02) 868 2028.

● **1460 VALVES** wanted, new or used, but prefer the vacuum to be in one piece. VK3ZM QTHR (03) 417 5336.

WANTED — VIC

● **No 109 Army radio** set in reasonable cond, or parts for same. Ian VK3AYK QTHR (03) 428 5363 BH, (03) 623 8406 AH.

● **YAESU FT750R** 70cm txvr and MMS-11 mobile bracket. ANZJAC QTHR.

WANTED — QLD

● **COLLINS RECEIVER** 3253 or similar, transformer to suit 20/115, 60 2KV AT 1AMP OR SIMILAR. VKACRO QTHR (07) 102 7712.

WANTED — SA

● **COPY OF CIRCUIT** diagram of amateur band revc LAFAYETTE model HA500, all expenses paid, call Bruce on (08) 382 1563.

WANTED — WA

● **REPAIR** 800MHz VLT100000 P3 10775 10775 EBF35M valves. Ken Gilon VK6ZA, (08) 398 7829.

Spreadpage

continued from page 51

(We hope you found the article by Dr Kidden technically informative. Please do take careful note of his name and call sign and the month in which we have published the item, which was submitted by Richard Murnane VK2SKY of Dee Why. Ed)

Stolen Equipment

Date	Equipment	Ser No	From
26 Feb '92	Kenwood TH75A UHF/UHF h/h transceiver plus accessories: carry case speaker/mic, mobile power lead	0061315	VK6KCH Chris Hill
7	Kenwood TS440S HF txvr	9100338	VK6ELL Elliott Greenfield

VK2DYM

Hamads

State: _____

[illegible]

Name: Call Sign: Address:

Solution to Morseword No 61

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	1	2	3	4	5	6	7	8	9	10
1	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	—	—	—
5	—	—	—	—	—	—	—	—	—	—
6	—	—	—	—	—	—	—	—	—	—
7	—	—	—	—	—	—	—	—	—	—
8	—	—	—	—	—	—	—	—	—	—
9	—	—	—	—	—	—	—	—	—	—
10	—	—	—	—	—	—	—	—	—	—

Across: 1 denim; 2 fade; 3 stab; 4 hike;
5 sale; 6 rims; 7 gilt; 8 fug; 9 swot; 10
sense.

Down: 1 diets; 2 seats; 3 rife; 4 uses; 5
drew; 6 pain; 7 jog; 8 hip; 9 Titian; 10
bike.

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Fill out the following form and send
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Wireless Institute of Australia
PO Box 300
Caulfield South, Vic 3162

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WIA Slow Morse Transmissions

VK2BWI nightly at 2000 local on 3550 kHz

VK2RCW Continuous on 3699kHz and 144.950MHz 5wpm, 8wpm, 12wpm

VK3RCW Continuous on 144.950MHz 5wpm, 10wpm

VK4WIT Monday at 0930 UTC on 3535kHz

VK4WCH Wednesday at 1000 UTC on 3535kHz

VK4AV Thursday at 0930 UTC on 3535kHz

VK4WIS Sunday at 0930 UTC on 3535kHz

VK5AWI Nightly at 1030 UTC on 3550 kHz

VK6RAP Nightly at 2000 local on 146.700MHz

VK6WIA Nightly (except Saturday) at 1200 UTC on 3.555MHz

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